November 1990

86-018-1810

NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
PHASE 2A BORING LOGS AND
MONITORING WELL CONSTRUCTION DETAILS

### **ENCLOSURE 16**

Prepared for Western Division Naval Facilities Engineering Command

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### LIST OF FIGURES

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# FIGURE 1 – PHASE 2A MONITORING WELL AND SOIL BORING LOCATIONS

PHASE 2A BORING LOGS AND MONITORING
WELL CONSTRUCTION DETAILS
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

THE ABOVE IDENTIFIED FIGURE IS NOT AVAILABLE.

EXTENSIVE RESEARCH WAS PERFORMED BY SOUTHWEST DIVISION TO LOCATE THIS FIGURE. THIS PAGE HAS BEEN INSERTED AS A PLACEHOLDER AND WILL BE REPLACED SHOULD THE MISSING ITEM BE LOCATED.

QUESTIONS MAY BE DIRECTED TO:

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APPENDIX A

BUILDING 360 BORING LOGS AND MONITORING WELL CONSTRUCTION DETAILS

# Boring Log Legend

No: (Number) Soil samples are numbered consecutively from the ground surface. Core samples are numbered consecutively from the first core run.

SS= Split-Spoon (2\* 0.D.) PT= Piston Tube

ST= Shelby Tube

A= Auger Cuttings

Interval: The depth of sampling interval in feet below ground surface.

#### BLOW COUNT

The number of blows required to drive a 2-inch O.D. split-spoon sampler with a 140 pound hammer falling 30-inches. When appropriate, the sampler is driven 18 inches and blow counts are reported for each 6-inch interval. The sum of blow counts for the last two 6-inch intervals is designated as the standard penetration resistance (N) expressed as blows per foot.

#### RECOVERY IN INCHES

The length of sample recovered by the sampling device.

#### U.S.C.S SOIL TYPE

The Unified Soil Classification System symbol for recovered soil samples determined by visual examination or laboratory tests. Refer to ASTM 02487-69 for a detailed description of procedure and symbols. Underlined symbols denote classifications based on laboratory tests (ie:  $\underline{ML}$ ), all others are based on visual classification only.

#### PERCENT MOISTURE

Natural moisture content of sample expressed as percent of dry weight.

### qu,TSF

Unconfined compressive strength in tons per square foot obtained by Hand Penetrometer. Laboratory compression test values are indicated by underlining.

The contact depth between soil layers is interpreted from significant changes in recovered samples and observations during drilling. Actual changes between soil layers often occur gradationally and the contact depths shown on the boring logs should be considered as approximate.

### SUIL DESCRIPTION AND REMARKS

Soil descriptions include consistency or density, color, predominant soil types, and modifying constituents.

COHES	IVE SOILS		GRANULAR	SOILS
Consistency	qu (TSF)	8lows/Ft.	Density	Blows Per Foot
Very Soft	less than 0.25	0-1	Very Loose	4 or less
Soft	0.25 to 0.50	2-4	Loose	5 to 10
Medium Stiff	0.50 to 1.00	5-8	Medium Dense	11 to 30
Stiff	1.00 to 2.00	9-15	Dense	31 to 50
Very Stiff	2.00 to 4.00	15-30	Very Dense	over 50
Hard	more than 4.00	Over 30	1	

### PARTICLE SIZE DESCRIPTION

#### DEFINITION OF TERMS

Boulder= Cobble= Gravel=	Larger than 12 inches. 3 to 12 inches. 0.187 to 3 inches.	Some= And=	5 to 12 percent by weight. 12 to 30 percent by weight. Approximately equal fractions.
Sand= Silt and Clay=	0.074 mm to 4.76 mm. Smaller than 0.074 mm	( ) <del>=</del>	Orillers observation.

(Plezometer) Screened interval of the plezometer installation is denoted by cross-hatching.

The boring logs and related information depict subsurface conditions only at the specific locations and dates indicated. Soil conditions and water levels at other locations may differ from conditions occurring at these boring locations. Also the passage of time may result in a change in the conditions at these boring locations.

### SOIL TEST BORING REFUSAL

Defined as any material causing a blow count greater than 100 blows/6 inches. Such material may include bedrock, "floating" rock slabs, boulders, dense gravel seams, or comented soils. Refusal is usually indicated in fractional notation showing number of blows as the numerator and inches of penetration as the denominator.

PROJECT No. <u>86-018-1804</u>
BORING No. <u>MW360-1</u>
LOGGED BY RMD

20 21 22 23 24 25 25 26 27 28 29 29 20 20 20 20 20 20 20 20 21 22 23 24 25 25 26 27 28 29 29 20 20 20 20 20 20 20 20 20 20 20 20 20	DDO	IEC	T NIAR		NAS	Alam	oda	Pha	so 2A	Site Inve	etical	ione			
DRILLER   Spectrum Exploration - Garry Buss   DATE: START   6/28/90   FINISH   FINI				•									ors	SURFACE ELEVATION 113 19 feet	
SAMPLE				•										<del></del>	
SAMPLE				Оросс		A <b>D</b> 10	<u> </u>			300	<u>_</u>	, <u>.</u>		T	Р
T H No. TYPE   NTERVAL 0" 6" 12" (in) TYPE (%) (TSP) E T AND REMARKS 2 Z ON 1 CONCRETE (Fill)   TYPE (%) (TSP) E T A H   TYPE (Fill)   TYPE (F			SAM	PLE			BLOW	,	REC	USCS	wc	qu	ΑE	SOIL DESCRIPTION	$ \cdot $
No.   TYPE   FROM   TO   6"   12"   18"	Р							<u> </u>			<u> </u>				E
1	-								(in)	TYPE	(%)	(TSF)		AND REMARKS	
1	Н	No.	TYPE	FROM	το	6"	12"	18"					RH		恛
2 CS 2.0 3.5 4 10 12 14 SP  5 3 CS 3.5 5.0 3 4 2 15 SP  4 CS 5.0 6.5 1 2 5 13 SP  5 CS 6.5 8.0 3 1 2 12 SP  6 CS 8.0 9.5 2 3 2 15 SP  9 CS 12.5 14.0 4 16 16 16 SSC  10 CS 14.0 15.5 5 9 11 16 SSC  20															Ш
S   S   S   S   S   S   S   S   S   S		_			$\overline{}$	$\overline{}$		_						•	Н
S   3   CS   3.5   5.0   3   4   2   15   SP		2	CS	2.0	3.5	4	10	12	14	SP			2.7		1
4	_	2	Ce	25	<b>5</b> 0	_			15	e D				1 · ·	$\vdash$
becomes saturated at 4.5 feet.      S	<b>5</b>	<u> </u>					-		•					1	V
10		-	- 03	3.0	0.5	一		<u> </u>	'3	Si					
10		-	CS	6.5	8.0	<b>一</b> 、	1	2	12	SP	ļ				
7 CS 9.5 11.0 2 2 4 15 SC 8 CS 11.10 12.5 6 12 18 15 SC 9 CS 11.10 12.5 6 12 18 15 SC 9 CS 11.10 12.5 6 12 18 15 SC 9 CS 12.5 14.0 4 16 18 14 SC 15 10 CS 14.0 15.5 5 9 11 16 SC 15 10 CS 14.0 15.5 5 9 11 16 SC 15 15 10 CS 14.0 15.5 5 9 11 16 SC 15 15 15 10 CS 14.0 15.5 5 9 11 16 SC 15 15 15 16 SC 15 15 15 16 SC 15 15 16 SC 15 15 15 16 SC		_					<del></del>		· -	•				_	Ϊ́χ
7 CS 9.5 11.0 2 2 4 15 SC 8 CS 11.10 12.5 6 12 18 15 SC 9 CS 11.10 12.5 6 12 18 15 SC 9 CS 11.10 12.5 6 12 18 15 SC 9 CS 12.5 14.0 4 16 18 14 SC 15 10 CS 14.0 15.5 5 9 11 16 SC 15 10 CS 14.0 15.5 5 9 11 16 SC 15 15 10 CS 14.0 15.5 5 9 11 16 SC 15 15 15 10 CS 14.0 15.5 5 9 11 16 SC 15 15 15 16 SC 15 15 15 16 SC 15 15 16 SC 15 15 15 16 SC	10		-	0.0	3.0	┝┺	<del>                                     </del>	-	"	<b>J</b> .					X
8 CS 11.0 12.5 6 12 18		7	CS	9.5	11.0	2	2	4	15	sc		] .	10.3		_
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15 10 CS 14.0 15.5 5 9 11 16 SC    20									1		1	1			X
20 21 22 23 24 25 25 26 27 28 29 29 20 20 20 20 20 20 20 20 21 22 23 24 25 25 26 27 28 29 29 20 20 20 20 20 20 20 20 20 20 20 20 20		9	CS	12.5	14.0	4	16	16	14	sc				decrease in clay to trace at 12.3 feet.	X
Bottom of Boring at 15.5 feet.  Notes:  1. Boring was advanced using 8-inchdiameter hollow stem augers.  2. Groundwater was encountered at 4.5 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches 4. Boring was converted to a monitoring well upon completion of drilling.  5. OVA readings: a) 8-10 ppm at 4.0 feet. b) 20-30 ppm at 5.5 feet. c) 0 ppm at 9.0 feet.	15	10	CS	14.0	15.5	5	9	11	16	sc				becomes fine to medium grained at	X
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O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was converted to a monitoring well upon completion of drilling.  5. OVA readings: a) 8-10 ppm at 4.0 feet. b) 20-30 ppm at 5.5 feet. c) 0 ppm at 9.0 feet.	ı		$\vdash$		<del></del>	<del> </del>	╁		1		1			1	$\vdash$
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4. Boring was converted to a monitoring well upon completion of drilling.  5. OVA readings:  a) 8-10 ppm at 4.0 feet.  b) 20-30 ppm at 5.5 feet.  c) 0 ppm at 9.0 feet.	30	-		<del>                                     </del>		<u> </u>	1		1		Į		<u> </u>	· · · · · · · · · · · · · · · · · · ·	$\vdash$
well upon completion of drilling.  5. OVA readings:  a) 8-10 ppm at 4.0 feet.  b) 20-30 ppm at 5.5 feet.  c) 0 ppm at 9.0 feet.		<b>-</b>				<u> </u>			1						
well upon completion of drilling.  5. OVA readings:  a) 8-10 ppm at 4.0 feet.  b) 20-30 ppm at 5.5 feet.  c) 0 ppm at 9.0 feet.			1				1		1					4. Boring was converted to a monitoring	
a) 8-10 ppm at 4.0 feet. b) 20-30 ppm at 5.5 feet. c) 0 ppm at 9.0 feet.	1								1	ŀ	}	1	1	1	П
a) 8-10 ppm at 4.0 feet. b) 20-30 ppm at 5.5 feet. c) 0 ppm at 9.0 feet.	1								1		1				
b) 20-30 ppm at 5.5 feet. c) 0 ppm at 9.0 feet.	35								]	1	1	l		5. OVA readings:	
40 c) 0 ppm at 9.0 feet.									]					i ' ' '	
40									]	ł		Į .			
	]								1	1				c) 0 ppm at 9.0 feet.	$\square$
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	40					<u> </u>	<u> </u>		1	1	1	1			
			<u> </u>			<u> </u>	<u> </u>	<b>└</b>	1						$\vdash$
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PROJECT No. <u>86-018-1804</u>

BORING No. <u>MW360-2</u>

LOGGED BY RMD

	IEC	r nan	45	NAC	Alam	oda	Pha	so 2A	Site Inve	octico	lione			
			TION						OILE IIIV	esuga	LIONS		SURFACE ELEVATION 114.27 feet	
	LER							arry B	uce.		ATE:	STAR		
D E P	-L-t-1.1	SAM				BLOW	,	REC	USCS	wc	qu	L D A E Y P	SOIL DESCRIPTION	P I E
T H	No.	TVPE	INTE	RVAL TO	0°	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	4	AND REMARKS	z
<del>                                     </del>	140.	ITFE	FROM		•	12	10	<u> </u>			<u> </u>	<u> </u>	Compress (FIII)	≝
	1 2	CS CS	0.5	2.0	5	8	12	15 15	SM SM			0.5	Concrete. (Fill) Loose, dark brown, silty fine sand, moist. (Fill) color change to orangish brown	_
5	3	CS	3.5	5.0	2	4	3	6	sw	•		3.8	and trace of clay at 2.8 feet.  Loose, orangish brown, gravelly sand,	_
	4	CS	5.0	6.5	1	3	5	10	SM			5.0	moist, with trace of silt, moist. (Fill)	X
	5	CS	6.5	8.0	3	2	2	15	SM				with trace of gravel and clay.	X
10	6	CS	8.0	9.5	3	4	5	16	sc		-	9.0	color change to dark brown at 5.5 feet.	Х
.0	7	CS	9.5	11.0	5	10	11	16	sc					X X
	8	cs	11.0	12.5	10	12	14	16	sc				sand, saturated, with trace of clay. increase in clay to some at 9.5 feet.	X X
15	9	CS CS	12.5 14.0	14.0 15.5	8	9	10 15	16 16	SC SC				, -	X
'	i	- 00	14.0	15.5	,	2	13		30			15.5	very wet at 12.5 feet.	$\hat{-}$
													Bottom of Boring at 15.5 feet.	_
20													Notes:	_
20													Boring was advanced using 8-inch- diameter hollow stem augers.	
25													Groundwater was encountered at 5.0 feet during drilling.	
													3. Sampler type: California Sampler (CS)	
30													O.D.: 2.5 inches	_
									·				Boring was converted to a monitoring well upon completion of drilling.	
35										) :			5. OVA readings: a) 2-5 ppm at 1.0 feet.	
									-				b) 2-4 ppm at 5.0 feet.	_
40														
														$\exists$
Page	:	1	of	1	<u> </u>				1	<u> </u>	L	<u> </u>	<u> </u>	

PROJECT No. <u>86-018-1804</u>
BORING No. <u>MW360-3</u>
LOGGED BY RMD

	150			NAC /	A I =		<u> </u>	04	Olas Issue	4!			
		T NAM	TION						Site Invi	esuga	lions		SURFACE ELEVATION 114.28 feet
	LLER		Spect								DATE:	STA	<del></del>
D E P		SAM				BLOW	,	REC	USCS	wc	qu	L D A E Y P	SOIL DESCRIPTION
T H	No.	TYPE	INTE	RVAL TO	0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)		AND REMARKS
													Concrete. (Fill)
	1	CS	0.5	2.0	7	12	14	15	SM	İ	İ	0.5	Medium dense, dark brown, silty fine
1	2	CS	2.0	3.5	7	5	3	15	SP			1.2	sand, moist. (Fill)
_ ا	<del> </del> -	-	2.5	5.0	1	2	2	15	SM			3.0	Medium dense, light brown, fine sand, moist. (Fill)
5	3	cs	3.5 5.0	5.0 6.5	3	1	1	16	SM	•	Ì	5.0	Loose, grayish tan, silty fine sand,
	<del>                                     </del>	- 00	3.0	0.0	۳		H	"	0,,,		l	0.0	
1	5	cs	6.5	8.0	3	4	5	16	SM				moist, with trace of clay. (Fill) some asphalt from 3.8 feet to 5.0 feet.
	6	CS	8.0	9.5	5	15	17	18	SM	·			Loose, light brown, silty fine sand,
10								]			1		saturated.
	7	CS	9.5	11.0	10	14	13	16	SM		1		Loose, light brown, silty fine sand, saturated.  trace of clay at 8.0 feet.  Medium dense, orange brown mottled with gray, silty fine sand, saturated, trace of clay. (Merritt Sand)
	8	CS	11.0	12.5	7	10	12	17	SM		ļ	11.5	Medium dense, orange brown mottled
	9	CS	12.5	14.0	6	13	20	15	SM				with gray, silty fine sand, saturated, trace of clay. (Merritt Sand)
15	10	CS	14.0	15.5	5	6	7	17	SM		Į.	1	iface of clay. (Wernit dand)
.	<del>                                     </del>	1.00	1,		Ť		<del>-</del> -	1 "				15.5	
											l		
1							<u> </u>		}				Notes:
		<u> </u>			_		<u> </u>	ļ					4. Boring was advanced wing 0 inch
20		<b>├</b> ──			$\vdash$			ł			1	1	Boring was advanced using 8-inch- diameter hollow stem augers.
					_		-	i		1			diameter honow stern augers.
	$\vdash$	<del> </del>					_	1				1	2. Groundwater was encountered at
								1					4.5 feet during drilling.
25								}		}	1	١	
							L	]		1			3. Sampler type:
		<b>↓</b>	<u> </u>		<u> </u>	<u> </u>	<b> </b>	ļ		1			California Sampler (CS)
		<b>├</b> ─	<u> </u>					ł				]	O.D.: 2.5 inches I.D.: 2.0 inches
30	$\vdash$	$\vdash$	<del> </del> -		<del>                                     </del>	<u> </u>	-	ł		ļ	ļ		I.D 2.0 literies
30	<b>—</b>	<del> </del>			<del>                                     </del>			1	] .	İ		ŀ	4. Boring was converted to a monitoring
	$\vdash$	<del>                                     </del>			t			1					well upon completion of drilling.
								1			Ī		5. OVA readings:
35				<u> </u>	<u> </u>			Ì				1	a) 5 ppm at 6.0 feet.
		<del> </del>	<b> </b>		-	<b> </b>	-	-					6 Standing water at 14 0 feet was
- [	-	-	-	<del>  -</del>		<del>                                     </del>		1		1	1		6. Standing water at 14.0 feet upon completion of drilling.
	$\vdash$	+-	-	<del>                                     </del>	<del> </del>	+-	<del>                                     </del>	1					Completion or animng.
40	-	1	<del>                                     </del>		<b>†</b>	T	1	1		1			T
								]					
								1	<u> </u>				
Pag	e:	1	of	1									

PROJECT No. <u>86-018-1804</u>
BORING No. <u>MW360-4</u>
LOGGED BY BB

PRO									Site Investigation				SURFACE ELEVATION 113.90 feet				
	LER			trum E								SURFACE ELEVATION 113.90 feet START 6/27/90 FINISH 6/27/90					
D E P		SAM				BLOW	,	REC	USCS	wc	qu	L D A E Y P	SOIL DESCRIPTION				
T H	No.	TYPE	INTE FROM	TO	0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS				
													Concrete. (Fill)				
	2	CS CS	0.5 2.0	2.0 3.5	13 8	14	21 8	15 15	SM SM			0.5	Medium dense, dark brown, silty fine sand. (Fill)				
_	•		0.5		•		_	4.4	21.4				becomes loose and saturated at				
5	3	CS CS	3.5 5.0	5.0 6.5	3	6	5	14 13	SM SM				4.5 feet, color change to black, with some asphalt at 5.5 feet				
			3.0	0.0		$\vdash$			3141				some asphalt at 5.5 feet				
	5	CS CS	6.5 8.0	8.0 9.5	2	3	3	17 16	SM SM			6.5 8.5	Loose, dark brown, silty fine sand, saturated.				
10			0.0	0.0	J		_		0,,,,			0.5	Loose, reddish brown, silty fine sand,				
ı	7	CS	9.5	11.0	4	7	11	16	SM				saturated, with trace of clay.				
	8	CS	11.0	12.5	7	11	12	16	SM				(Merritt Sand)				
	9	CS	12.5	14.0	5	12	12	14	SM				color change to dark brown at				
5	10	CS	14.0	15.5	8	10	7	14	SM				13.5 feet.				
												15.5	Bottom of Boring at 15.5 feet				
													Notes:				
20													<ol> <li>Boring was advanced using 8-inch- diameter hollow stem augers.</li> </ol>				
													Groundwater was encountered at     4.5 feet during drilling.				
25													<u> </u>				
													Sampler type:     California Sampler (CS)				
													O.D.: 2.5 inches				
													I.D: 2.0 inches				
30													4. Boxing was compared to a social to the				
													<ol> <li>Boring was converted to a monitoring well upon completion of drilling.</li> </ol>				
													5. OVA readings: No OVA readings				
35													observed during drilling.				
ю								Ì									
												i					

PROJECT No. <u>86-018-1804</u> BORING No. LOGGED BY

B360-5 GMM

OF	ING	LOCA	TION	North	west	side	of B	uilding	360				SURFACE ELEVATION 114.7 feet	
RIL	LER		Spec	trum E	xplo	ratio	ո - Ga	arry B	uss		ATE:	STAR	T 6/26/90 FINISH 6/26/90	
D E P		SAM	PLE		Į.	BLOW		REC	USCS	wc	qu	L D A E Y P	SOIL DESCRIPTION	
T -	No.	TYPE	INTE	RVAL TO	0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	
						Ī							Concrete. (Fill)	
	1	CS	0.5	2.0	14	35	30	15	SM			0.7	Dense, dark brown, fine to medium	
	2	CS	2.0	3.5	15	25	22	14	SM				sand, moist, with trace of silt. (Fill)	
5	3	CS	3.5	5.0	9	7	12	14	SM				becomes dry and color changes to	
,	4	CS	5.0	6.5	9	11	9	17	SM				light brown at 3.0 feet.	
	Ť			- 5.5	Ť		Ť	''	J				becomes medium dense at 3.5 feet.	
	5	CS	6.5	8.0	2	1	2	18	SM-CL			7.2	becomes saturated at 5.5 feet.	
	6	CS	8.0	9.5	4	3	3	16	SM			8.0	becomes loose at 6.5 feet.	f
0		<del></del>	<del> </del>		Ė	Ť	Ť	.5	J			3.5	Very soft, dark gray, silty clay, saturated,	1
•	7	CS	9.5	11.0	3	4	8	17	SM-SC			10.0	with some fine sand. (Bay Mud)	1
	8	CS	11.0	12.5	5	12	17	17	SC-SM			.0.0	Loose reddish brown and gray, silty fine	'
									000				sand, saturated, with trace of clay.	1
	9	CS	12.5	14.0	8	14	18	16	SM				(Merritt Sand)	l
5	10	CS	14.0	15.5	7	11	8	16	SM				Medium dense, orange and brown,	'
											İ		clayey fine sand, saturated, with trace	
	11	CS	15.5	17.0	1	2	10	16	SM		i		of silt. (Merritt Sand)	
												17.0	decrease in clay to some at 11.5 feet.	,
													decrease in clay to trace at 13.0 feet.	/
0													Bottom of Boring at 17.0 feet.	'
													Notes:	
													1. Boring was advanced using 8-inch-	
25					-								diameter hollow stem augers.	
										•			2. Groundwater was encountered at 5.5	
													feet during drilling.	
10													3. Sampler type:	
													California Sampler (CS)	
													O.D.: 2.5 inches	
													I.D.: 2.0 inches	
35													4. Boring was backfilled with cement/	
													bentonite grout upon completion of	
													drilling.	
													-	
													5. OVA readings: No OVA readings	
10													observed during drilling.	

PROJECT No. <u>86-018-1804</u>
BORING No. <u>B360-6</u>
LOGGED BY GMM

		T NAM							Site Inve	estiga	tions		
			TION			_						07.1	SURFACE ELEVATION 114.2 feet
	LER		Speci	trum E	:xpio	ratio	1 - G	arry B	uss T	<u>_</u>	DATE:	SIA	RT 6/25/90 FINISH 6/25/90
E		SAM				BLOW		REC	USCS	wc	qu	A E	SOIL DESCRIPTION
T H	No.	TYPE	INTE	TO	6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T	AND REMARKS
													Concrete. (Fill)
	1	CS	0.5	2.0	10	7	8	18	SM			0.7	Medium dense, brown, silty medium
	2	CS	2.0	3.5	3	7	6	12	SM				sand, moist. (Fill)
													becomes loose and color changes
5	3	cs	3.5	5.0	3	3	2	14	SM				to black at 3.5 feet.
	4	cs	5.0	6.5	2	1	4	14	SM		i	5.8	Very loose, black, sandy gravel,
													angular, saturated. (Fill)
	5	CS	6.5	8.0	3	3	3	16	GP-SM			6.5	Loose, black, silty medium sand, with
10	6	CS	8.0	9.5	5	9	11	16	SM-SC			8.0	saturated, trace of clay.
וטו	7	cs	9.5	11.0	3	11	10	15	sc				Color change to brown at 7.3 feet.
	8	CS	11.0	12.5	3	6	8	16	SC SC		·		Medium dense, reddish brown and gray, clayey fine gray sand, saturated, with
		<del></del>	11.0	12.0	Ť	Ť			30				trace of silt. (Merritt Sand)
	9	cs	12.5	14.0	12	10	14	16	sc				clay content decreases at 10.0 feet.
15	10	CS	14.0	15.5	10	12	15	3	SC				
											ļ	15.5	Bottom of Boring at 15.5 feet.
													Notes:
													Trotes.
20													1. Boring was advanced using 8-inch-
													diameter hollow stem augers.
												•	
		· · · · · · · · · · · · · · · · · · ·											2. Groundwater was encountered at
ر ا													5.0 feet during drilling.
25													2 Samulartana
	-			-									Sampler type:     California Sampler (CS)
													O.D.: 2.5 inches
		<del> </del>	-	<b>-</b>									I.D.: 2.0 inches
30		<del> </del>											1.5 2.0 IIICH93
		<u> </u>	<del></del>										4. Boring was backfilled with cement/
													bentonite grout upon completion
													on drilling.
													_
35													5. OVA readings:
ŀ									:				a) 30 ppm at 4.0 feet.
													6. Standing water level at 7.3
,		<u> </u>	<b> </b>										feet after drilling.
40													
	<b></b>	<b></b>											
age	<u> </u>	1	of	1								L	<u> </u>

PROJECT No. <u>86-018-1804</u>
BORING No. <u>B360-7</u>
LOGGED BY <u>BB</u>

DRILLER   Spectrum Exploration - Garry Buss   DATE: START   6/26/90   FINISH   6/26/90			<del>~</del> :=	ione	ectica	Site Inv	so 24	Pha	eda .	<b>∆</b> lam	NAS	/F	TNAN	MEC	PRC
DRILLER   Spectrum Exploration - Garry Buss   DATE: START   6/26/90   FINISH   6/26	O feet	SURFACE ELEVATION 114.0 fe						-							
D   SAMPLE   BLOW   COUNT   REC   USCS   SOIL   D   A   E   F   F   F   F   F   F   F   F   F			STAR												
No. TYPE   FROM   TO   6"   12"   18"	F		A E	qu	wc		REC			1		PLE	SAM		E
1	Z	AND REMARKS		(TSF)	(%)	TYPE	(in)						TYPE	No.	
2   CS   2.0   3.5   5   5   5   5   5   5   5   5   5		Concrete. (Fill)													
5	wn,	Medium dense to dense, dark brown,	0.5							-					
S	-	, ,				SM	16	5	5	5	3.5	2.0	CS	2	
10   10   10   10   10   10   10   10	<u> </u>					SM	10	1	1	2	50	35	CS	3	5
10	⊢					•	_	_	_	<u> </u>		<del>                                     </del>		_	ľ
8 CS 8.0 9.5 3 5 8 16 SM  7 CS 9.5 11.0 12 13 12 17 SM  8 CS 11.0 12.5 8 17 24 15 SM  9 CS 12.5 14.0 8 13 18 16 SM  10 CS 14.0 15.5 5 7 13 16 SM  20	<u> </u>														
10				:		SM	16	2	1	2	8.0	6.5		5	
7 CS 9.5 11.0 12 13 12 17 SM SM Some clay. (Merritt Sand)  9 CS 12.5 14.0 8 13 18 16 SM 16 SM 10 CS 14.0 15.5 5 7 13 16 SM 16 SM 15.5 Feet.  20	d gray, [	Medium dense, reddish brown and gr	8.0		]	SM	16	8	5	3	9.5	8.0	cs	6	
8 CS 11.0 12.5 8 17 24 15 SM 9 CS 12.5 14.0 8 13 18 16 SM 10 CS 14.0 15.5 5 7 13 16 SM 20					Ì	CM	17	42	12	12	11.0	0.5	Ce	<del>  </del>	טו
15 10 CS 14.0 15.5 5 7 13 16 SM  20		some clay. (Merritt Sand)				_									
15 10 CS 14.0 15.5 5 7 13 16 SM  20	-														
20 21 22 23 24 25 25 26 27 28 28 29 20 20 20 20 20 20 20 20 20 20 20 20 20							16		13	8	_			9	
Notes:  1. Boring was advanced using 8-diameter hollow stem augers.  2. Groundwater was encountered 4.5 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cembentonite grout upon completic	$-\!$	/=				SM	16	13	7	5	15.5	14.0	CS	10	15
1. Boring was advanced using 8-diameter hollow stem augers.  2. Groundwater was encountered 4.5 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cembertonite grout upon completic	<u>}</u>	Bottom of Boring at 15.5 feet.	15.5						<u> </u>	-					ĺ
1. Boring was advanced using 8-diameter hollow stem augers.  2. Groundwater was encountered 4.5 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cembertonite grout upon completic	<u> </u>	Notes:								_					
diameter hollow stem augers.  2. Groundwater was encountered 4.5 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cembentonite grout upon completic	-	110.00.													
2. Groundwater was encountered 4.5 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cembentonite grout upon completic	inch-	1. Boring was advanced using 8-inch													20
4.5 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cerr bentonite grout upon completic		diameter hollow stem augers.													
4.5 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cerr bentonite grout upon completic		0.00												-	
3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cerr bentonite grout upon completic	at –								_					<u> </u>	
California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cerr bentonite grout upon completic	-	4.5 leet dainig drinnig.								<del>                                     </del>					25
California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cerr bentonite grout upon completic		3. Sampler type:													
30 I.D.: 2.0 inches  4. Boring was backfilled with cerr bentonite grout upon completic		• ••		-											
30 4. Boring was backfilled with cerr bentonite grout upon completic															
4. Boring was backfilled with cerr bentonite grout upon completic	<u> </u>	I.D.: 2.0 inches								<u> </u>		ļ		<u> </u>	20
bentonite grout upon completi	<sub>ient</sub> ,	4 Roring was handfilled with semant				·			<b>-</b>	<u> </u>			-		30
	*	- · · · · · · · · · · · · · · · · · · ·						$\square$		<del></del> -			$\vdash$		
		-													
	gs 🗀	5. OVA readings: No OVA readings								<u> </u>			<u> </u>	ļ	35
observed during drilling.	<u> </u>	observed during drilling.													
										_			<del>                                     </del>		
<del>                                   </del>	H									$\vdash$			<del>                                     </del>		
40															40
				'											
Page: 1 of 1										l		L	<u> </u>	<u> </u>	<u></u>

PROJECT No. 86-018-1804 BORING No. LOGGED BY

B360-8 GMM

	UE C	T NAM	.=	NAC	A.L.		<u> </u>	04	0'4 - 1		<u> </u>			
									Site Inve ng 360	estiga	ions		SURFACE ELEVATION 113.9 feet	
	LER			trum E							ATE:	STAF	<del></del>	
D E P		SAM				BLOW	,	REC	USCS	wc	qu	L D A E Y P	SOIL DESCRIPTION	P - L
T	No.	TYPE	INTE FROM		0" 6"	6"	12"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	Z
												<u> </u>	Concrete. (Fill)	打
ĺ	1	CS	0.5	2.0	17	16	16	16	SM			0.5	Medium dense, brown and black,	
İ	2	CS	2.0	3.5	4	4	5	15	SM				silty fine sand, moist. (Fill)	L
5	⊢⊸	CC	2.5	50	4	4	4	10	SM				becomes loose at 2.0 feet.	L
٦	3	CS CS	3.5 5.0	5.0 6.5	2	1	1	16 12	SM			6.0	color change to black at 2.7 feet, some asphalt.	Н
	$\vdash$	00	3.0	0.5		<del>                                     </del>	<b></b> -	12	OIW!			0.0	Medium dense, brown, silty fine sand,	H
İ	5	CS	6.5	8.0	2	4	10	17	CL			7.0	saturated.	H
İ	6	CS	8.0	9.5	6	13	19	17	CL-SM			9.0	Stiff, orange brown mottled gray, sandy	
10													clay, saturated. (Merritt Sand)	
İ	7	CS	9.5	11.0	8	13	17	15	SM				Medium dense, orange brown, silty	Ш
İ	8	CS	11.0	12.5	8	12	14	17	SM				fine sand, saturated, trace of clay, decrease of clay to trace at 9.5 feet.	Н
l	9	CS	12.5	14.0	8	11	10	16	SM				decrease of day to trace at 3.3 leet.	Н
15	10	CS	14.0	15.5	5	5	11	18	SM					H
l												15.5	Bottom of Boring at 15.5 feet.	一
ĺ														
İ													Notes:	Ш
20													1 Bering was advanced wains 0 inch	Н
20	$\vdash$			·									Boring was advanced using 8-inch- diameter hollow stem augers.	H
İ													Gameter Hollow Stelli augers.	Н
ĺ								:		,			2. Groundwater was encountered at	П
													4.5 feet during drilling.	
25						<u> </u>								
ĺ													3. Sampler type:	Н
	$\vdash$												California Sampler (CS) O.D.: 2.5 inches	Н
													I.D.: 2.0 inches	Н
30	$\vdash$												1.5 2.0 1101103	H
													4. Boring was backfilled with cement/	П
													bentonite grount upon completion of	
			L										drilling.	Ц
35													5 OVA roadings:	Н
၂၁၁	$\vdash$												5. OVA readings: a) 100 ppm at 4.5 feet.	Н
													α/ 100 μμπι αι τ.υ 1 <del>00</del> ι.	H
														H
40														
		ļ												Н
Page	<u>.                                    </u>	1	of	L		<u> </u>	L	L						Ш

PROJECT No. <u>86-018-1804</u>
BORING No. <u>B360-9</u>
LOGGED BY BB

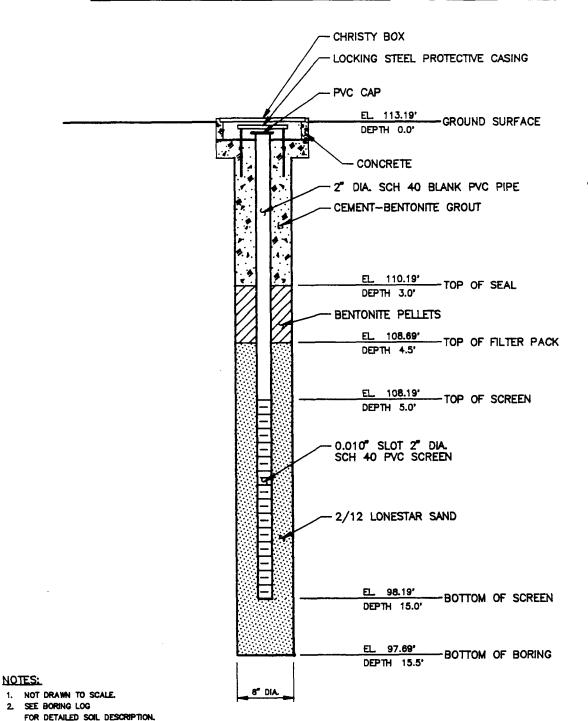
	UEC	T NAM	AE	NAS	Alam	oda	Pha	co 24	Site Inve	etiga	tions			
			TION				_		OILE ITIVE	suya	110115		SURFACE ELEVATION 113.8 feet	
	LER			trum E					188	Г	DATE:	STAR		
D E P		SAM				BLOW	,	REC	USCS	wc	qu	L D A E Y P	SOIL DESCRIPTION	PIE
T	No.	TYPE	INTE		0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	Z
													Concrete. (Fill)	둒
	1	CS	0.5	2.0	15	10	8	12	SM			0.5	Medium dense, dark brown, silty	
]	2	CS	2.0	3.5	4	7	16	14	SM				fine sand, moist. (Fill)	
													color change to black at 3.0 feet.	
5	3	cs	3.5	5.0	4	5	6	14	SM		1	•	slight hydrocarbon odor at 3.0 feet.	
	4	CS	5.0	6.5	2	1	2	17	SM			ĺ	becomes loose at 5.0 feet.	
												ļ	becomes saturated at 6.0 feet.	
ĺ	5	CS	6.5	8.0	2	2	3	14	SM				color change to dark brown	<u> </u>
	6	CS	8.0	9.5	3	6	14	17	SM			8.5	at 6.5 feet.	1_
10	<u> </u>				<u> </u>	-		ا					Medium dense, reddish brown and gray,	$\vdash$
	7 8	CS	9.5 11.0	11.0 12.5	7 10	12	17	17 16	SC-SM SM				silty fine sand, saturated, with trace of clay. (Merritt Sand)	$\vdash$
1	<del>  °                                   </del>	Co	11.0	12.5	10	10	12	10	SIVI				color change to light brown at	-
	9	CS	12.5	14.0	7	9	12	13	sc				12.0 feet.	-
15	10	CS	14.0	15.5	7	12	13	16	SC		1	<u> </u>	increase in clay content at 12.5 feet.	$\vdash$
'		-00	14.0	10.0	<u> </u>	<u> </u>		"	~~				morodoo m olay comon de 12.0 foci.	$\vdash$
	11	cs	15.5	17.0	3	7	15	17	sc					H
			10.00		-			i ''				17.0	Bottom of Boring at 17.0 feet.	$\vdash$
												l		
20								]				1	Notes:	
								]						
									'	ļ	1	<u> </u>	Boring was advanced using 8-inch-	
		L						l					diameter hollow stem augers.	
l	<u> </u>				<u> </u>		<u> </u>							_
25	<u> </u>	<u> </u>			ļ	ļ	<u> </u>					ĺ	2. Groundwater was encountered	<u> </u>
	<u> </u>		ļ					i					at 6.0 feet during drilling.	$\vdash$
1		<b>-</b>	<b></b>	_	-			ł		}			2 Complete to the	<u> </u>
	<del> </del>	<del> </del>			-	<del> </del>		ł					3. Sampler type:	H
30	-		-	<del> </del>	-		├		}			İ	California Sampler (CS) O.D.: 2.5 inches	-
30	<del> </del>	-	<del>                                     </del>	_	-	<del>                                     </del>		ł					I.D.: 2.0 inches	-
	<del> </del>		$\vdash$		<del>-</del>	<del>                                     </del>	-	ł				į	I.D.: 2.0 Inches	Н
		<del>                                     </del>	<del>                                     </del>		<del> </del>	$\vdash$	<del>                                     </del>	1					4. Boring was backfilled with cement/	
	1	-	<b>†</b> – –	<del>                                     </del>		<del>                                     </del>		i				[	bentonite grout upon completion	$\vdash$
35								1	1	}	1	}	of drilling.	Н
-		<u> </u>		1	l	<u> </u>		1				]		П
[								]	ł		1	1	5. OVA readings: No OVA readings	
									]	ŀ			observed during drilling.	
1								]				[		
40								]	Ì		1			
														$\square$
	1		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>		<u> </u>	<u> </u>		Ш
Page	):	1	of	1										

### Monitoring Well Detail

PROJEC	T No	86-018-1804
WELL N	o.	W360-1

PROJECT NAME NAS ALAMEDA--PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 360, NORTHWEST CORNER DATE 6-28-90 BY RMD

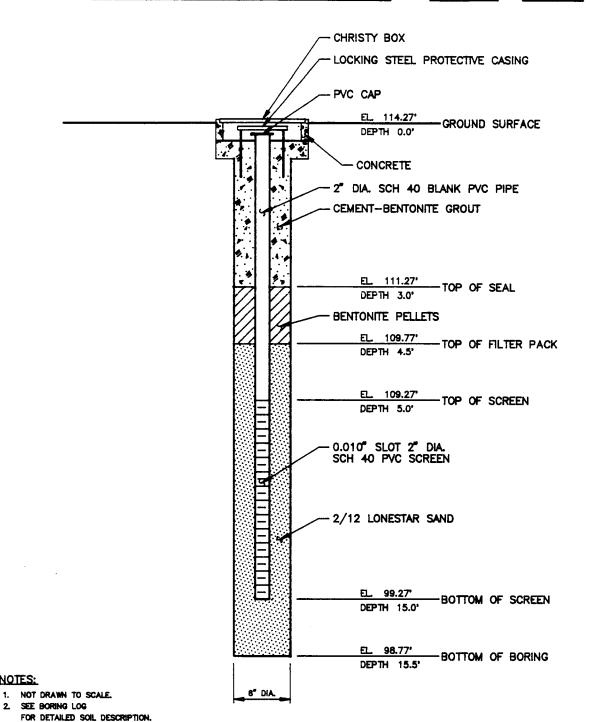


NOTES:

## Monitoring Well Detail

PROJECT	No.	86-018-1804
WELL No.	M	W360_2

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION WELL LOCATION BUILDING 360, WEST SIDE DATE 6-28-90 BY RMD

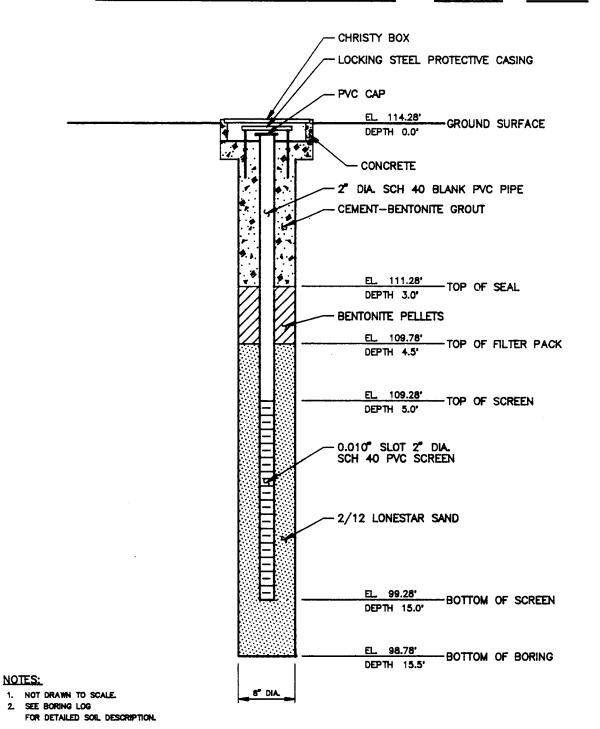


## Monitoring Well Detail

PROJECT No. 86-018-1804
WELL No. MW360-3

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 360, SOUTH SIDE DATE 6-27-90 BY GM

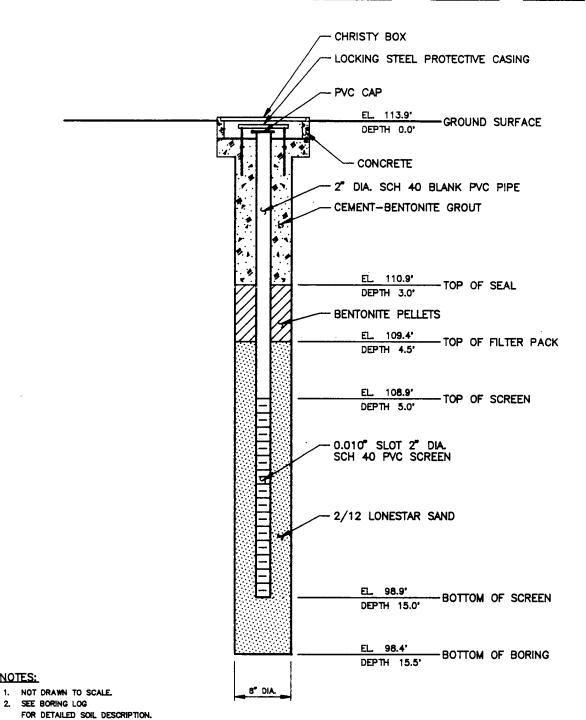


NOTES:

### Monitoring Well Detail

PROJECT	No.	86-018-1804
WELL No.	MW	360-4

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION WELL LOCATION \_\_BUILDING 360, EAST SIDE DATE 6-27-90 BY GM



APPENDIX B

BUILDING 547 BORING LOGS AND MONITORING WELL CONSTRUCTION DETAILS

PROJECT No. <u>86-018-1804</u>

BORING No. <u>MW547-1</u>

LOGGED BY RMD

									of Build				SURFACE ELEVATION 114.58 feet
	LER		Speci	trum E	xplo	ratio	<u> </u>	arry B	uss		ATE:		T 6/29/90 FINISH 6/29/90
D E P		SAM	PLE		l.	BLOW		REC	USCS SOIL	wc	qu	L D A E Y P	SOIL DESCRIPTION
1	No	TYPE	INTE FROM		0"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS
÷		cs							0.5	l			A I IA /P*111\
		<u> </u>	0.0	1.5	12	14	11	14	SP			0.3	Asphalt. (Fill)
	2	CS	1.5	3.0	6	7	7	1.	SP				Medium dense, light brown, fine sand,
	3	CS	3.0	4.5	2	2	2	15 13	SP-SM			4.0	moist, some asphalt debris. (Fill) becomes loose at 1.5 feet.
5	-	- 03	3.0	4.5		-	-	13	SP-SIVI			4.0	
,	4	CS	4.5	6.0	1	2	1	13	SM				Loose, dark brown, silty fine sand, saturated.
	5	CS	6.0	7.5	2	1	1	15	SM			6.0	Medium dense, brown, silty fine sand,
	<u> </u>	- 00	0.0	,,		<del> </del>		13	SIVI			7.3	saturated. (Merritt Sand)
	6	cs	7.5	9.0	3	6	12	18	SM			7.3	Loose, orange and brown mottled with
0	7	CS	9.0	10.5	14	15	14	17	SM				gray, silty, fine sand, saturated, with
٠			9.0	15.5	<del>- : -</del>	- '-	- <del></del> -	''	OIVI				trace of clay. (Merritt Sand)
	8	cs	10.5	12.0	10	20	16	18	SM			10.5	becomes medium dense at 8.5 feet.
	9	CS	12.0	13.5	7	13	12	18	SM			10.5	layer of clayey sand at top of unit.
	Ť		, 2.0	10.5	<u> </u>		.2	, ,	OIV!				Medium dense to dense, brown, silty
5	10	CS	13.5	15.0	7	13	15	18	SM				fine sand, saturated. (Merritt Sand)
	-10	- 00	10.0	10.0	<del></del> -	13	,5	,0	0191			15.0	Bottom of Boring at 15.0 feet.
												13.0	bottom of boning at 15.0 leet.
													Notes:
													Notes.
0													1. Boring was advanced using 8-inch-
-													diameter hollow stem augers.
													dameter nellew stern dagers.
													Groundwater was encountered
													at 4.0 feet during drilling.
5													at no lost during siming.
													3. Sampler type:
													California Sampler (CS)
ı													O.D.: 2.5 inches
Ì													I.D.: 2.0 inches
0													
													4. Boring was converted to a monitoring
										,			well upon completion of drilling.
													5. OVA readings: No OVA readings
5												ļ	observed during drilling.
0													

PROJECT No. <u>86-018-1804</u>

BORING No. <u>MW547-2</u>

LOGGED BY RMD

J	IIVG	LOCA							d area o				SURFACE ELEVATION 113.87 feet
_	LER		Spect	rum E	xplo	ratior	ի - Ga	rry Bu	JSS		ATE:		T 6/29/90 FINISH 6/29/90
2					,		.		SOIL	<u> </u>		LD	
	- 1		INTE	DVAL	0"	6"	12"	(in)	TYPE	(%)	(TSF)	ET	AND REMARKS
,	No.	TYPE	FROM	TO	6"	12"	18"	(III)	1175	(70)	(135)	RH	AND REMARKS
-		CS	0.0	1.5	4	9	14	13	SM		╁		Grass and topsoil.
	1	- 03	0.0	1.5	-	9		13	SIVI			0.5	Medium dense, dark brown, silty
	2	CS	1.5	3.0	6	8	12	15	SM		1	0.5	fine sand, dry. (Fill)
	3	CS	3.0	4.5	10	10	7	14	SM				becomes moist with odor at 2.5 feet.
5		- 03	3.0	7.5	-10				G.W.		ļ	ļ	color change to black at 2.8 feet.
,	4	cs	4.5	6.0	2	3	2	15	SM			5.0	trace of clay at 3.5 feet.
	5	cs	6.0	7.5	3	5	10	18	sc			7.0	becomes loose at 4.5 feet.
	Ŭ		0.0	, i.o.	Ť	1							Medium dense, brown, silty sand,
	6	cs	7.5	9.0	5	10	11	16	sc			}	saturated.
0	7	CS	9.0	10.5	9	7	10	16	sc	1	1	1	Medium dense, orange brown mottled
_		<del>                                     </del>						_					with gray, clayey fine sand, saturated.
	8	cs	10.5	12.0	9	9	13	15	sc		Į.		clay decreases to some at 9.0 feet.
	9	CS	12.0	13.5	9	10	11	16	sc				color change to brown at 9.0 feet
													(Merritt Sand)
5	10	CS	13.5	15.0	6	11	13	18	sc	1	1		Heaving sands encountered at bottom
													of borehole.
									ļ	ļ		15.0	Bottom of Boring at 15.0 feet.
													Notes:
20				<u> </u>	<u> </u>		<u> </u>		]				
			<u> </u>		<u> </u>								Boring was advanced using 8-inch-
		<u> </u>	<u> </u>		Ь	<u> </u>				1		1	diameter hollow stem augers.
			↓		↓	<u> </u>						}	
	ļ	<u> </u>	<b>↓</b>		ļ	<u> </u>	<b>_</b>		ļ	ļ	1	ļ	Groundwater was encountered at
25		<b> </b>			—	<u> </u>	ļ						5.3 feet during drilling.
	<u> </u>	<b> </b>		<u> </u>	<del>                                     </del>	<b>├</b>	<u> </u>					1	O. Camples times
	<u> </u>	<b>├</b> ──	<del> </del>		₩	}—	<b>}</b>			1		}	3. Sampler type:
		<del> </del>	├		₩	├	├—						California Sampler (CS) O.D.: 2.5 inches
30	<u> </u>	├	<del> </del>	<del> </del>	<del>                                     </del>	┼	<del>                                     </del>		1	1			1.D.: 2.0 inches
U	-	<del> </del>		<del> </del>	-	$\vdash$	-					1	1.5 2.0 (10)163
	<u> </u>	<del>                                     </del>	+-	$\leftarrow$	<del>                                     </del>	+-	<del>                                     </del>		ļ			ļ	4. Boring was converted to a monitoring
		<del>                                     </del>	<del> </del>	<del>                                     </del>	+	$\vdash$	$\vdash$	•		1			well upon completion of drilling.
	_	<del>                                     </del>	+-			<del>                                     </del>	<del>                                     </del>						Jan apon somplement of annual
35			╁┈	$\vdash$	1	1		1	1	1		1	5. OVA readings:
		†	+-	1		$T^{-}$	<del>                                     </del>	1	1			1	a) 10 ppm at 1.0 feet.
		†	<del>                                     </del>	$T^{-}$	<del>                                     </del>	<del>                                     </del>	<b>!</b>	1			-		, , , , , , , , , , , , , , , , , , , ,
	<b></b>	<del>                                     </del>	1		1	1	T	1					
		$\dagger$	<del>                                     </del>	<u> </u>		1	<b>T</b>	1					}
40		†	†	<del>                                     </del>	1	1		1	]		1		
-		+	+-	<del>                                     </del>	<del> </del>	1	<del></del>	1	I	1	1	I	

PROJECT No. <u>86-018-1804</u>

BORING No. <u>MW547-3</u>

LOGGED BY RMD

		T NAN							Site Inve			<i>5 4 7</i>	SURFACE ELEVATION 115.61 feet
	LER		Spect								r blag. DATE:		
D E P		SAM				BLOW	,	REC	USCS	wc	qu	L D A E Y P	SOIL DESCRIPTION
T H	No.	TYPE	INTE FROM		0°	6" 12"	12"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS
	1	CS	0.0	1.5	6	13	13	9	SP				Asphalt. (Fill)
	2	CS	1.5	3.0	2	12	13	15	SP			1.0	Medium dense, gray, fine sand, dry,
	3	cs	3.0	4.5	6	5	6	14	SP				with fuel odor. (Fill) sand becomes moist at 3.5 feet.
5			5.5		Ť	Ť		' '	"				thin layer of clay at 4.0 feet.
	4	CS	4.5	6.0	1	1	1	13	CL			5.5	Soft, dark gray, sandy clay, saturated.
	5	cs	6.0	7.5	1	1	1	16	CL			7.3	Sand decreases to none at 6.3 feet.
											l		Very loose, black, silty fine sand,
	6	CS	7.5	9.0	2	2	2	17	SM				saturated.
10	7	CS	9.0	10.5	3	2	2	15	SM			10.3	Loose, orange brown mottled with gray,
	8	cs	10.5	12.0	2	5	7	18	SM	•			silty, fine sand, saturated, with some clay. (Merritt Sand)
	9	CS	12.0	13.5	2	9	10	16	SM				becomes medium dense at 11.5 feet.
			12.0	,0.5		-	-:0	,,,	0,,,		1		clay decreases to trace at 12.8 feet.
5	10	cs	13.5	15.0	5	8	13	17	SM				olay deoreages to made at 12.0 leet.
												15.0	Bottom of Boring at 15.0 feet.
													Notes:
20													Boring was advanced using 8-inch-
-													diameter hollow stem augers.
													diameter mellew storm augoro.
													2. Groundwater was encountered
													at 5.0 feet during drilling.
25													
													<ol><li>Sampler type:</li></ol>
													California Sampler (CS)
													O.D.: 2.5 inches
30						-							I.D.: 2.0 inches
"													4. Boring was converted to a monitoring
													well upon completion of drilling.
													5. OVA readings:
35													<ul><li>a) 30-40 ppm at 1.5 feet.</li></ul>
								:					b) 100-200 ppm in hole 3.0 feet.
						<b> </b>							c) 50 ppm at 6.0 feet.
40													
+∪		ļ			$\vdash$	$\vdash \vdash$							
		<del>                                     </del>			$\vdash$								

PROJECT No. <u>86-018-1804</u>
BORING No. <u>MW547-4</u>
LOGGED BY BB

		_											<u> </u>	_
PRO	JEC.	TNAM	1E	NAS /	Alam	eda -	Pha	se 2A	Site Inve	estigat	ions			
BOR	ING	LOCA							ed area			47	SURFACE ELEVATION114.68 feet	
DRIL	LER		Spect	rum C	Drillin	g - G	arry l	Buss			ATE:	STAR	T 6/28/90 FINISH 6/28/90	
DEP		SAM	PLE			BLOW		REC	USCS SOIL	wc	qu	L D A E Y P	SOIL DESCRIPTION	1 5
T H	No.	TYPE	INTE		0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	2
	1	CS	0.0	1.5	10	9	10	13	SM				Asphalt. (Fill)	Ī
												0.3	Medium dense, dark brown, silty fine	
	2	CS	1.5	3.0	6	8	6	15	SM				sand, dry. (Fill)	L
5	3	CS	3.0	4.5	1	2	2	15	SM				becomes very loose at 3.0 feet. color change to black at 3.8 feet.	F
J	4	cs	4.5	6.0	1	1	1	18	SM				becomes saturated at 4.5 feet.	١,
	5	cs	6.0	7.5	2	2	2	15	SM					
														5
	6	cs	7.5	9.0	1	1	1	17	SM					D
10	7	cs	9.0	10.5	3	4	4	16	sc			9.0	Loose, reddish brown and gray, clayey	2
			10.5	10.0	4	7			sc				fine sand, saturated, with some silt. (Merritt Sand)	Ľ
	8	CS	10.5 12.0	12.0 13.5	2	5	6 10	17 15	SC				clay decreases to trace at 12.5 feet.	K
į		"	12.0		┢╌	J		, ,	30				city decreases to trace at 12.5 reet.	۲
15	10	cs	13.5	15.0	10	12	15	13	SM		•	13.5	Medium dense, dark brown, silty	T:
													fine sand, saturated.	
												15.0	Bottom of Boring at 15.0 feet.	L
					<u> </u>								Natas	L
20					-	<del> </del>	<b></b> -						Notes:	H
20					<del> </del>		<del> </del>						1. Boring was advanced using 8-inch-	H
							<u> </u>						diameterhollow stem augers.	r
													•	
													Groundwater was encountered	L
25					ļ		<u> </u>						at 4.5 feet during drilling.	L
		-					<u> </u>						3. Sampler type:	H
		<del> </del>	<b></b>				<b>-</b>						California Sampler (CS)	$\vdash$
													O.D.: 2.5 inches	H
30													I.D.: 2.0 inches	
														L
							<u> </u>						4. Boring was converted to a monitoring	L
		-	$\vdash$										well upon completion of drilling.	$\vdash$
35	_	<del>                                     </del>	+										5. OVA readings: No OVA readings	H
							_						observed during drilling.	H
														ľ
											l			
4-		ļ												Ĺ
40					_						}			L
	$\vdash$	<del> </del>				<del>                                     </del>								$\vdash$
Page	<u></u> :	1	of	1	1		<u> </u>	1			L		<u> </u>	

 PROJECT
 No.
 86-018-1804

 BORING
 No.
 MW547-5

 LOGGED
 BB

		TNAN							Site Inve				
									d area c				SURFACE ELEVATION 114.68 feet
D	LER		Spect	rum E	:xpio	ration	1 - G	arry Bi	uss	<u>L</u>	ATE:	SIAH L D	T 6/29/90 FINISH 6/29/90
E		SAM	PLE		1	BLOW		REC	USCS	wc	qu	A E Y P	SOIL DESCRIPTION
T H	No.	TYPE	INTE FROM		0* 6*	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS
	1	cs	0.0	1.5	4	14	19	10	SP				Grass and Topsoil.
	2	CS	1.5	3.0	21	13	17	13	SP			0.2	Medium dense, light brown, fine sand, dry. (Fill)
	3	CS	3.0	4.5	5	6	5	12	SP				trace of red brick fragments from
5										ł			1.7 feet to 2.0 feet.
	4	CS	4.5	6.0	2	4	6	15	SM			4.5	Loose, dark brown, silty fine sand, moist,
	5	cs	6.0	7.5	2	6	4	16	sc			6.0	with pockets of gray clay.
											:		Loose, black, clayey fine sand, with
	6	cs	7.5	9.0	3	4	3	17	sc				some silt, saturated.
0	7	cs	9.0	10.5	3	5	3	16	SM			9.0	Loose, dark brown, silty fine sand, with
													trace of clay, saturated.
	8	cs	10.5	12.0	10	12	15	18	SM			10.5	Medium dense, orange brown mottled
	9	CS	12.0	13.5	2	10	20	17	SM			1	with gray silty fine sand, saturated with
					<u> </u>								trace of clay. (Merritt Sand)
5	10	cs	13.5	15.0	8	11	16	16	SM				
					<u> </u>							15.0	Bottom of Boring at 15.0 feet.
						<u> </u>							Notes:
20													Boring was advanced using 8-inch-
					<u> </u>								diameter hollow stem augers.
					ļ								
					ļ		<b> </b>						Groundwater was encountered
_					ļ		ļ						at 6.0 feet during drilling.
5		<del> </del>				-	<b></b>						a. Commission to make
							<u> </u>						3. Sampler type:
					-	-							California Sampler (CS)
		<del>                                     </del>	<del>                                     </del>		$\vdash$		<del>                                     </del>						O.D.: 2.5 inches I.D.: 2.0 inches
0		<del> </del>			$\vdash$	-	$\vdash$						I.D., 2.0 Inches
U					-					ĺ			4. Boring was converted to a monitoring
		-			$\vdash$		$\vdash$						well upon completion of drilling.
					<del> </del>		<del> </del>						wen apon completion of animg.
		<del>                                     </del>			$\vdash$		<del> </del>						5. OVA readings: No OVA readings
35		<del>                                     </del>	$\vdash \vdash \vdash$		<del> </del>	<del>                                     </del>	<del> </del>						observed during drilling.
		<b></b>			<del> </del>	<del>                                     </del>	<del></del>						observed during drining.
		<b></b>			<del>                                     </del>		$\vdash$						
		<del> </del>			_		<b></b>						
		<del>                                     </del>		-			$\vdash$						
10		<b>†</b>					<b> </b>						
	T	T	T					1	I	l	l	i	

PROJECT No. 86-018-1804 BORING No. LOGGED BY

B547-6 RMD

PRO	JECT	NAM	IE .	NAS /	Alam	eda -	Pha	se 2A	Site Inve	estigat	ions			<del></del>
BOR	ING	LOCA				_			d area o	f Build	ling 54	17	SURFACE ELEVATION 114.8 feet	
$\overline{}$	LER		Spect	rum E	xplo	ration	1 - G	arry Bi	uss	2	ATE:	STAR	T 7/2/90 FINISH 7/2/90	<del>-</del>
D E		SAMI	PLE			BLOW		REC	USCS	wc	qu	L D A E	SOIL DESCRIPTION	P
P		_	INTE	RVAL	0"	6" COUN	T 12"	(in)	SOIL TYPE	(%)	(TSF)	Y P E T	AND REMARKS	E
н	No.	TYPE	FROM	TO	6"	12"	18"					RH		0
	1	cs	0.0	1.5	7	16	12	0	SM			0.3	Asphalt. (Fill)	
								Į		ļ	ļ		Medium dense, brown, silty fine sand,	<u> </u>
	2	CS	1.5	3.0	15	18	16	12	SM		ł		moist. (Fill)	_
	3	CS	3.0	4.5	3	2	4	9	SM					Н
5						-				Ì	1		color change to black at 4.5 feet.	L
	4	CS	4.5	6.0	4	2	3	15	SM			!	becomes saturated at 5.5 feet.	<b> </b>
ļ	5	cs	6.0	7.5	2	3	2	13	SM		<u> </u>		color change to brown at 6.0 feet.	H
					<u> </u>		-						Madium dance arange brown mettled	-
1,0	6	CS	7.5	9.0	2	8	20	16	SC			7.8	Medium dense, orange brown mottled	$\vdash$
10	7	cs	9.0	10.5	17	25	20	18	sc				with gray, clayey sand, saturated, with trace of silt. (Merritt Sand)	-
	_	CS	10.5	12.0	10	15	25	18	sc				decrease in clay to some at 11.5 feet.	<u> </u>
İ	8	CS	12.0	13.5	10	17	20	15	sc				some interlayered silty sand.	
	<b>"</b>	- 63	12.0	13.3	''	- ''	20	'	30				Some menayered only david.	一
15	10	cs	13.5	15.0	6	10	12	15	sc		ļ			┢
'		- 00	10.5	10.0	۱Ť	··	<u> </u>	1	"		ļ	15.0	Bottom of Boring at 15.0 feet.	一
		<u> </u>			╁			1					a constraint of a constraint of the constraint o	Г
					$\vdash$			1					Notes:	
	<b></b>	<del>                                     </del>					$\vdash$	1						Г
20		<b>-</b>			$\vdash$			1	1		1		Boring was advanced using 8-inch-	Г
					1	T		1		į			diameter hollow stem augers.	
								1				ļ		
1						1		1	İ	l			Groundwater was encountered	
								1					at 5.5 feet during drilling.	
25								]				1		
								}			ŀ		3. Sampler type:	
1								]			ļ		California Sampler (CS)	L
								]					O.D.: 2.5 inches	
								]					I.D.: 2.0 inches	
30								1			1	]		L
						<u> </u>		1					Boring was backfilled with cement/	_
			<u> </u>		ļ	<u> </u>	<u> </u>	1	1		1	1	bentonite grout upon completion of	$\vdash$
	<u></u>		<u> </u>	·		<u> </u>	<u> </u>	4					drilling.	<u>_</u>
		<u> </u>	<u> </u>	<u> </u>	<b></b>	<u> </u>	<b>↓</b> _	4						<u> </u>
35	<u></u>	↓	<b></b>	Ь—		<del>   </del>	<b>↓</b>	1					5. OVA readings:	$\vdash$
		<b> </b>	<b>↓</b>		_	<b>—</b>	<u> </u>	4					a) 1 ppm at 1.0 feet.	<u> </u>
1	_		-		-	↓	<b> </b>	4	}			1	1	$\vdash$
		↓	<u> </u>	<u> </u>	<del> </del>	—	<u> </u>	-						<u> </u>
	L	<b></b>		<u> </u>	<del> </del>	<b> </b>	<u> </u>	4						-
40	<u> </u>	<del> </del>	<b>_</b>	ļ	-	₩	<b></b>	4				1		$\vdash$
	<u> </u>	<b>↓</b>	<b>_</b>	-	$\vdash$	1—		4		1				$\vdash$
<u>_</u>	<u> </u>	1	<del>ــــــ</del> ــــــــــــــــــــــــــــــ	ــِـــــــــــــــــــــــــــــــــــ	1	1	ل	<u> </u>	1	1	1	<u> </u>		
Page	<b>)</b> :	1	of	1										

PROJECT No. <u>86-018-1804</u>
BORING No. <u>B547-7</u>
LOGGED BY BB

	JEC	T NAM	AE	NAS	Alam	oda	Pho	00.24	Site Inve	ootige!				
												547	SURFACE ELEVATION 116.2 feet	
DRIL				trum E							DATE:			
D		_										LD	7, 2, 2	Р
E		SAM	PLE		l	BLOW		REC	USCS	wc	qu	A E Y P	SOIL DESCRIPTION	E
T H	No	TVDE	INTE	RVAL TO	0" 6"	6°	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	z
H	1	CS	0.0	1.5	15	19	21	12	SM		<del>                                     </del>	0.3	Asphalt. (Fill)	0
			0.0	1.5	<u></u>	1,3		'-	O.W.			0.3	Dense, dark brown, silty fine sand, moist.	⊣
	2	CS	1.5	3.0	16	23	24	14	SP			1.8	Dense, light brown, fine sand, moist.	✝
	3	CS	3.0	4.5	5	7	6	15	SP				strong fuel odor at 1.5 feet.	
5			<u> </u>		<u> </u>								becomes loose at 4.5 feet.	
	4	CS	4.5	6.0	3	3	3	16	SP				very strong fuel odor at 5.5 feet.	L
	5	CS	6.0	7.5	2	4	4	12	SP				becomes saturated at 5.5 feet.	L
	6	CS	7.5	9.0	2	1	2	15	SP			8.0	Very loose, dark grayish brown, fine	$\vdash$
10	7	CS	9.0	10.5	7	12	10	17	SP			""	sand, saturated, with trace of silt,	
													becomes medium dense at 9.0 feet.	Н
	8	CS	10.5	12.0	6	10	12	15	SM			11.0	Medium dense, brown and gray, silty	
	9	cs	12.0	13.5	8	8	8	17	SM				fine sand, saturated, with some clay	
ا ۔ ا			ļ		<u> </u>	ļ	<u> </u>			İ			seams. some orange-mottled gray	L
15	10	CS	13.5	15.0	6	13	13	17	SM				coloring at 11.0 feet. (Merritt Sand)	$oldsymbol{oldsymbol{oldsymbol{eta}}}$
			<b> </b>		<b> </b> -	<del> </del>	<del> </del>					15.0	Sottom of Boring at 15.0 feet.	Ш
					-								Notes:	Н
				$\vdash$	$\vdash$								Notes.	Н
20					┢		<b></b>						Boring was advanced using 8-inch-	$\vdash$
					······								diameter hollow stem augers.	Н
														П
													2. Groundwater was encountered	П
													at 5.5 feet during drilling.	
25					ļ									
			ļ		<u> </u>								3. Sampler type:	
					<u> </u>						Ò		California Sampler (CS)	
			_		├	_							O.D.: 2.5 inches	Н
30			<del> </del>		<u> </u>								I.D.: 2.0 inches	Н
"					<del> </del>								Boring was backfilled with cement/	Н
			<del>                                     </del>		<del>                                     </del>								bentonite grout upon completion	H
			<del>                                     </del>										of drilling.	Н
		-											<b></b>	H
35													5. OVA readings:	П
													a) 30 ppm down hole at 1.5 feet.	
													b) 300-700 ppm at 2.0 feet.	
			<u> </u>			<u> </u>							c) > 1,000 ppm at 5.5 feet.	Ц
			<u> </u>	<b></b>										Ц
40			<del> </del>											Н
				<del>                                     </del>	<del>                                     </del>									Н
Page:		1	of	1	<u> </u>				L	L				Ш

PROJECT No. <u>86-018-1804</u>
BORING No. <u>B547-8</u>
LOGGED BY BB

PRO	PROJECT NAME NAS Alameda - Phase 2A Site Investigations													
						_						547	SURFACE ELEVATION 116.2 feet	
	LER			trum E							ATE:			
оше	SAMPLE			BLOW REC			USCS SOIL	wc	qu	L D A E Y P	SOIL DESCRIPTION	P I E		
T H	No.	TYPE	INTE FROM	RVAL TO	0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	z o
	1	cs	0.0	1.5	11	17	20	10	SM			0.3	Asphalt. (Fill)	
		-00	1.5	-	44	40	4.5		20				Dense, dark brown, silty fine sand, moist.	_
	3	CS CS	1.5 3.0	3.0 4.5	11 6	18 7	15 6	14	SP SP			2.0	Medium dense, light gray, fine sand, moist, fuel odor.	
5		- 00	0.0	7.0	Ŭ	<u> </u>	_	'`	Ŭ.				becomes very loose at 4.5 feet.	$\vdash$
	4	cs	4.5	6.0	2	1	1	11	SP				becomes saturated at 5.5 feet.	Г
	5	CS	6.0	7.5	1	2	1	14	SM			6.5	Very loose, black, silty fine sand,	Γ
													saturated.	
	6	CS	7.5	9.0	2	1	2	14	SM				strong fuel odor at 6.5 feet	
10	7	CS	9.0	10.5	2	5	10	16	SM			9.5	color change to dark gray at 7.5 feet.	<u> </u>
	8	CS	10.5	12.0	6	20	17	18	SM		·		Medium dense, orange brown mottled with gray silty fine sand, saturated,	-
	9	cs	12.0	13.5	4	10	20	15	SM				with some clay. (Merritt Sand)	
				15.10					J				clay decreases to trace at 12.0 feet.	Г
15	10	CS	13.5	15.0	6	13	25	11	SM					Γ
												15.0	Bottom of Boring at 15.0 feet.	
													Notes:	
20													1 Poring was advanced using 0 inch	-
20													Boring was advanced using 8-inch- diameter hollow stem augers.	
													dameter hollow sterr augers.	
													2. Groundwater was encountered	
													at 5.5 feet during drilling.	
25														
											·		3. Sampler type:	
						L							California Sampler (CS)	
										:			O.D.: 2.5 inches	
30													I.D.: 2.0 inches	_
55													4. Boring was backfilled with cement/	_
													bentonite grout upon completion	_
													of drilling.	_
													-	_
35													5. OVA readings:	
												:	a) > 1,000 ppm at 2.0 feet.	_
		-											b) 10-20 ppm at 7.5 feet.	_
				<b></b>										
40														
"		<b></b> -	t											$\dashv$
													<u> </u>	$\dashv$
Page	:	1	of	1										

PROJECT No. <u>86-018-1804</u>
BORING No. <u>B547-9</u>
LOGGED BY BB

PROJECT NAME NAS Alameda - Phase 2A Site Investigations  BORING LOCATION West of fenced area of Bldg. 547 by power pole SURFACE ELEVATION 114 feet													
													SURFACE ELEVATION 114 feet
D	LER		Spect	urum c	EXPIO	ratio	1 - G	arry B	uss T	<u>L</u>	ATE:	LD	T 7/2/90 FINISH 7/2/90
E P		SAM	PLE		l	BLOW		REC	USCS SOIL	wc	qu	A E Y P	SOIL DESCRIPTION
T H	No.	TYPE	INTE		0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS
	1	CS	0.0	1.5	28	9	9	12	SM			0.3	Asphalt. (Fill)
ı													Medium dense, dark brown, silty fine
ı	2	CS	1.5	3.0	4	4	5	12	SM				sand, moist.
- [	3	CS	3.0	4.5	2	2	1	13	SM				becomes loose at 1.5 feet.
5													color change to light brown at 2.5 feet.
ı	4	cs	4.5	6.0	2	1	1	14	SM				dark brown layer at 4.0 feet.
Ī	5	cs	6.0	7.5	2	1	4	16	SM-SC			7.0	becomes saturated at 4.5 feet.
[													Loose, dark brown mottled with gray
	6	cs	7.5	9.0	6	10	14	16	SC-SM			8.0	and orange clayey fine sand, saturated,
10 [	7	CS	9.0	10.5	7	12	10	15	SM				Medium dense, reddish brown & gray,
													silty fine sand, saturated, with
	8	CS	10.5	12.0	6	10	9	18	SM				some clay. (Merritt Sand)
	9	CS	12.0	13.5	4	3	4	6	SM				color change to brown gray at 13.5
													feet.
5	10	CS	13.5	15.0	10	10	11	17	SM				clay decreases to none at 13.5 feet.
												15.0	Bottom of Boring at 15.0 feet.
												•	
ļ													Notes:
ļ													
20					ļ								Boring was advanced using 8-inch-
													diameter hollow stem augers.
									,				
													Groundwater was encountered
						<b></b>							at 4.5 feet during drilling.
25						<u> </u>							
													3. Sampler type:
ı													California Sampler (CS)
- }					$\vdash$	<u> </u>							O.D.: 2.5 inches
													I.D.: 2.0 inches
Ю				-									
													4. Boring was backfilled with cement/
		<u> </u>											bentonite grout upon completion
		$\vdash$	$\vdash$		$\vdash \vdash$								of drilling.
35 I		<del> </del>	$\vdash$			-							E OVA readings, No OVA readings
ا د		-											5. OVA readings: No OVA readings
Ì			<del>                                     </del>										observed during drilling.
-	-	<b> </b> -	<del> </del>		<del>  </del>	<del>                                     </del>							
		<del> </del>	<b>-</b>		$\vdash\vdash$	$\vdash$	-						
40		<del>                                     </del>			_	<del> </del>							
~		<del>                                     </del>			<del>                                     </del>	-							
		L	1		L	L	L		1		1		

PROJECT No. 86-018-1804
BORING No. B547-10
LOGGED BY BB

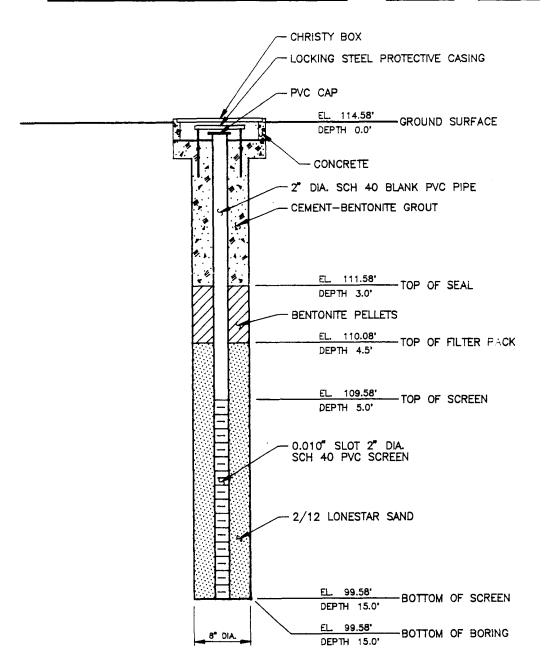
PROJECT NAME NAS Alameda - Phase 2A Site investigations														
									Site inve ldg. 547			toe	SURFACE ELEVATION 114.9 feet	
	LER							arry B				STAR		
0			ороо.						433	<u>-</u>	//\.	LD	IT 7/2/90 FINISH 7/2/90 I	F
Ε			BLOW		REC	uscs	wc	qu	ΑE	SOIL DESCRIPTION				
P		T	INTE	DA/AI	0"	COUN 6"	12"	(:-)	SOIL	/o/ \	700	ΥP		E
H	No.	TYPE	FROM		6"	12"	18"	(in)	ITPE	(%)	(TSF)	ET	AND REMARKS	Z
	1	cs	0.0	1.5	10	19	19	14	SM		Ì	0.3	Asphalt. (Fill)	片
													Dense, dark brown, silty fine sand,	徨
	2	cs	1.5	3.0	7	8	5	12	SM				moist, some gravel from 0.3-1.5 feet.	
	3	cs	3.0	4.5	3	3	3	15	SM				becomes medium dense at 1.5 feet.	L
5	4	CS	4.5	6.0	1	2	3	15	CNA				becomes loose at 3.0 feet.	$\vdash$
	5	CS	6.0	7.5	2	4	3	15 18	SM SM			ĺ	color change to black at 3.5 feet. becomes saturated at 5.0 feet.	-
		- 55	0.0	7.0	<u> </u>	<u> </u>	٣	ı	O.W.				Decomes saturated at 3.0 feet.	$\vdash$
	6	cs	7.5	9.0	2	2	3	16	SM					
10	7	CS	9.0	10.5	2	2	3	16	SM				color change to dark brown at 9.5 feet.	L
	8	CS	10.5	12.0	3	7	13	17	SM			10.5	Medium dense, dark brown and gray,	┢
	9	CS	12.0	13.5	6	8	8	15	SM				silty fine sand, saturated, with	r
													some clay.	
15	10	CS	13.5	15.0	5	13	15	17	SM				color change to reddish brown mottled	
			<u> </u>										gray at 12.5 feet.	$ ule{}$
					_							15.0	Bottom of Boring at 15.0 feet.	$\vdash$
													Notes:	┝
20								1						H
													Boring was advanced using 8-inch-	
													diameter hollow stem augers.	L
													Groundwater was encountered	┝
25													at 5.0 feet during drilling.	┝
													ar or tool daring drining.	┢
													3. Sampler type:	Г
													California Sampler (CS)	
20													O.D.: 2.5 inches	Ĺ
30			$\vdash$			$\vdash$							I.D.: 2.0 inches	L
			-		ļ	$\vdash$							4. Boring was backfilled with cement/	$\vdash$
			$\vdash$			$\vdash$							bentonite grout upon completion	$\vdash$
									İ				of drilling.	一
35														
													5. OVA readings:	
													a) 2 ppm at 3.5 feet.	_
												ļ	b) 15-30 ppm at 6.0 feet.	-
40			$\vdash$									1		-
														$\vdash$
														Γ
Page	:	1	of	1										

## Monitoring Well Detail

PROJECT No. 86-018-1804
WELL No. MW547-1

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION AREA 547, NORTHWEST CORNER AT GATE DATE 6-29-90 BY RMD



### NOTES:

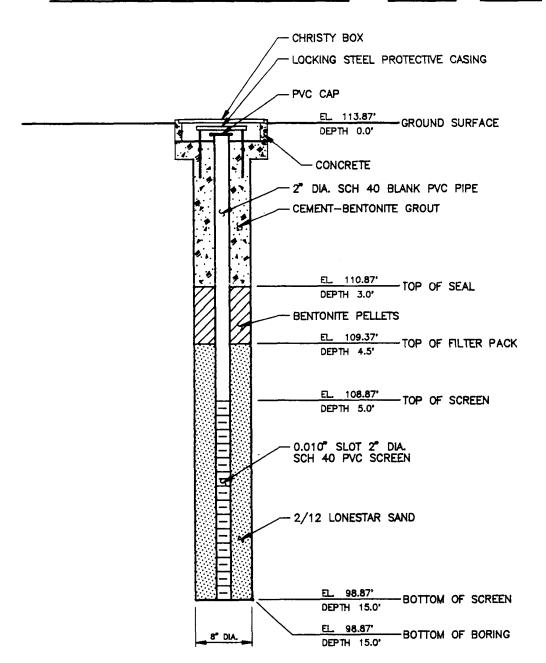
- 1. NOT DRAWN TO SCALE.
- 2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

# Monitoring Well Detail

PROJECT	No.	86-018-1804
WELL No.	MW	  547-2

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION AREA 547, NORTHEAST CORNER DATE 6-29-90 BY RMD



#### NOTES:

- 1. NOT DRAWN TO SCALE.
- 2. SEE BORING LOG

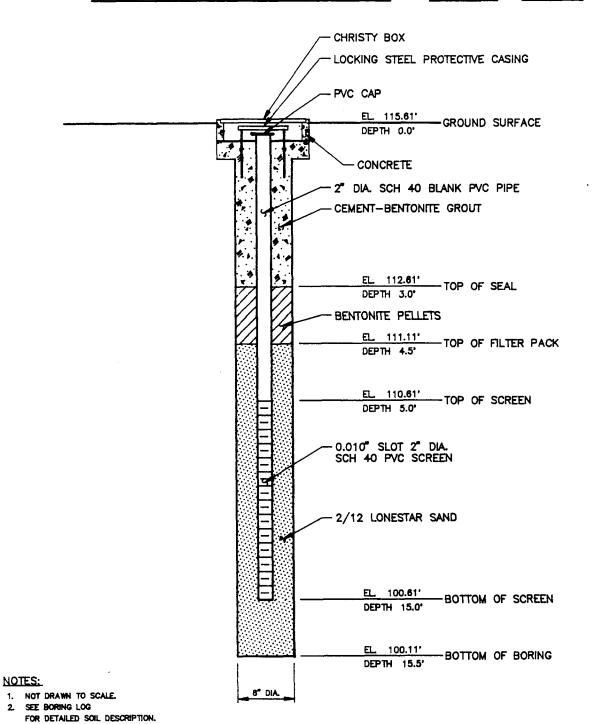
FOR DETAILED SOIL DESCRIPTION.

# Monitoring Well Detail

PROJECT	No.	86-018-1804
WELL No.	М٧	/ <del>547</del> –3

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION AREA 547, SOUTH OF GASOLINE ISLAND DATE 7-2-90 BY RMD

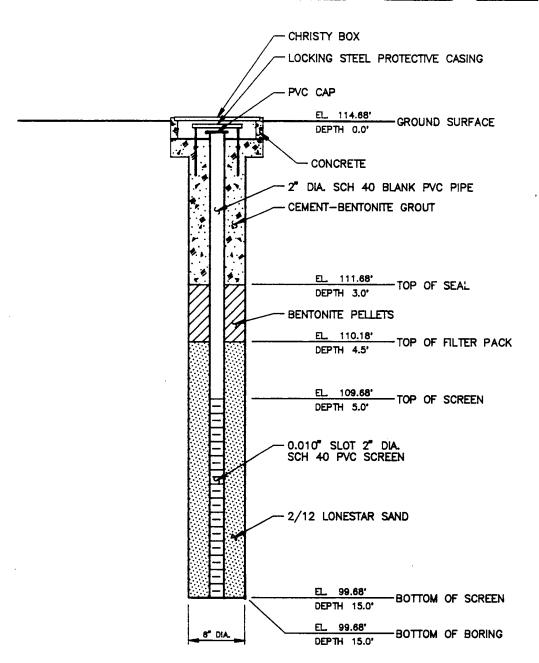


### Monitoring Well Detail

PROJECT No. 86-018-1804
WELL No. MW547-4

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION AREA 547, SOUTHWEST CORNER DATE 6-28-90 BY BB



### NOTES:

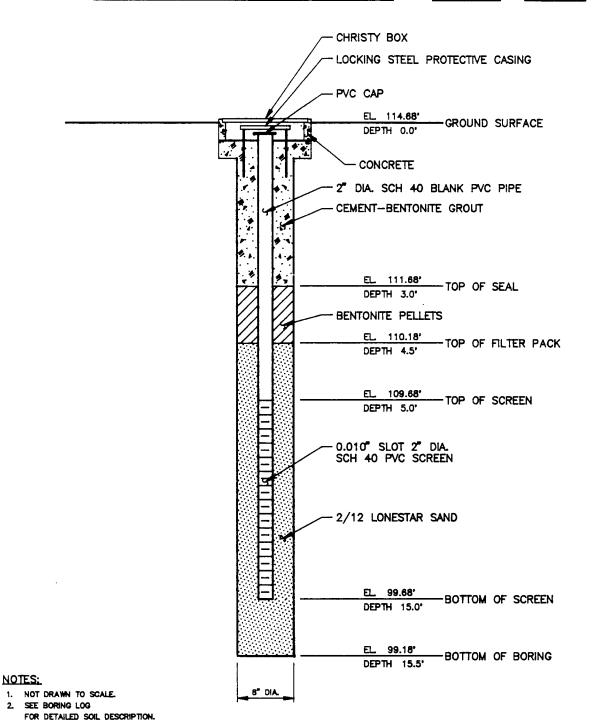
- 1. NOT DRAWN TO SCALE.
- 2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

# Monitoring Well Detail

PROJECT	No.	86-018-1804
WELL No.	MW.	547-5

PROJECT NAME NAS ALAMEDA—PHASE 2A SITE INVESTIGATION

WELL LOCATION AREA 547, SOUTHEAST CORNER DATE 6-29-90 BY RMD



#### APPENDIX C

YARD D-13 BORING LOGS AND MONITORING WELL CONSTRUCTION DETAILS

PROJECT No.	86-018-1804
BORING No.	MWD13-1
LOGGED BY	BB

PRC	)JEC	T NA	ME:		NAS	Alar	<u>neda</u>	- Ph	ase 2A S	Site In	vestiga	ations		
BOF	RING	LOC	ATION	<b>l</b> :									SURFACE ELEV. 114.57 feet	_
DRII				trum E							: ST	-	<del></del>	
	<u> </u>	· .	Opcc	ti dini t	-^pi0	ratio	1 - 00	I	7433	DAIL	<u> </u>	LD	7/11/90 FINISH 7/11/90	ΤP
E		SAM	PLE			BLOW	,	REC	uscs	wc	qu	AE	SOIL DESCRIPTION	
P	1				1	COUN			SOIL	'''	""	ΥP	SOIL BESOMP HON	E
Т Т	No.	TYPE	INTE	RVAL	0"	6"	12"	(in)	TYPE	(%)	(TSF)	EΤ	AND REMARKS	z
Н			FROM	ТО	6"	12"	18"	`		` '	, ,	ВН		0
	1	CS	0.0	1.5	20	6	16	14	SM			0.3	Asphalt. (Fill)	疒
	$\vdash$		0.0	···		Ť		, ,	0,,,			0.5	Medium dense to dense, light brown, silty	$\vdash$
	2	CS	1.5	3.0	10	20	13	14	SM				fine sand, dry. (Fill)	$\vdash$
	3	cs	3.0	4.5	1	2	3	14	SM			3.5	Very loose, dark brown, mottled, gray silty	$\vdash$
5	۲	- 03	3.0	4.5	<del>  '</del>	-	3	'*	SIVI			3.5		$\vdash$
	$\vdash$		4.5	-	_				014	1			fine sand, moist, with some pockets of	-
	4	CS	4.5	6.0	2	1	1	0	SM				gray clay.	Ľ
ļ	5	CS	6.0	7.5	1	1	2	12	SM				color changes to balck at 4.5 feet.	X
	Щ			<u> </u>	ļ									X
	6	cs	7.5	9.0	2	1	3	15	SM-SC			8.0	Very loose, mottled gray, orange brown,	LX.
10	7	CS	9.0	10.5	5	10	15	18	SC				silty clayey fine sand, saturated, with	X
													some silt. (Merritt Sand)	X
	8	CS	10.5	12.0	6	13	16	16	SC				become medium dense at 9.0 feet.	X
	9	CS	12.0	13.5	11	10	6	16	SC				thin layer of sandy, clay at 9.0 feet.	X
														×
15	10	CS	13.5	15.0	6	6	10	8	SC	İ				×
1												15.0	Bottom of Boring at 15.0 feet.	$\top$
ĺ														$\vdash$
													Notes:	
		-												$\vdash$
20													Boring was advanced using 8-inch-	$\vdash$
-	Н												diameter hollow stem augers.	$\vdash$
													diameter flollow stem augers.	$\vdash$
	-				_								2. Groundwater was encountered at	$\vdash$
	-				$\vdash$								T .	-
_ ا	<u> </u>												6.5 feet during drilling.	-
25	-				<u> </u>								0. 0	<u> </u>
	H												3. Sampler type:	<u> </u>
	Ш												California Sampler (CS)	<u></u>
													O.D.: 2.5 inches	
	igwdap					ļ							I.D.: 2.0 inches	$\vdash$
30	Щ			ļ	<u> </u>									$\vdash$
1	Ш				igsqcut								4. Boring was converted to a monitoring	L
	Ш		L										well upon completion of drilling.	
	Ш		ļ											Ĺ
													5. OVA readings: No OVA readings	
35													observed during drilling.	
													-	Г
1														Г
	П													
40														Г
•	$\Box$		<b></b>		Г									$\vdash$
Page		1	of	1				·						

PROJECT No. <u>86-018-1804</u>

BORING No. <u>MWD13-2</u>

LOGGED BY TGB

		T NIA	ME.		NIAC	\ A1		Dh	04 (	214 - 1				
		T NAI							ase 2A S					
			ATION						013, we			-	URFACE ELEV. 113.90 feet	
DRIL	LEF	₹:	Spec	trum E	xplo	ratio	n - G	arry E	Buss	DATE	: ST		7/6/90 FINISH 7/6/90	
D		SAM	01 =			BLOW	,	امدرا	11000	,,,,		LD	2011 27227171011	P
E		SAIVI	PLE		1	COUN		REC	USCS SOIL	wc	qu	AE	SOIL DESCRIPTION	
7	No.	TYPE	INTE	RVAL	0"	6"	12"	(in)	TYPE	(%)	(TSF)	ET	AND DENAADUS	E
H	"		FROM		6"	12"	18"	("'')	1176	( ~)	(136)	ВН	AND REMARKS	Z
										I	<del></del>		Asphalt. (Fill)	牂
1	1	CS	0.5	2.0	14	18	16	18	GM			0.3	Dense, brown, silty gravel, moist. (Fill)	$\vdash$
	2	CS	2.0	3.5	15	22	20	15	GM			0.5	bense, brown, sirry graver, moist. (1 iii)	-
	Ť			0.0	1	<del></del>	<u> </u>		<b>G</b>					ᅪ
5	3	CS	3.5	5.0	9	19	17	18	SM			3.5	Medium dense, brown, silty fine sand,	$\vdash$
	4	CS	5.0	6.5	5	10	11	18	SM				moist.	X
										İ			becomes saturated at 5.5 feet.	X
	5	CS	6.5	8.0	8	10	6	15	SM				color changes to gray from 6.5-7.5 feet.	X
	6	CS	8.0	9.5	4	2	1	18	SM				thin layer of organic matter at 9.0 feet.	X
10													,	X
	7	CS	9.5	11.0	1	1	6	18	SM					X
	8	CS	11.0	12.5	8	11	10	18	sc			11.0	Medium dense, orange brown mottled	×
													with gray, clayey fine sand, saturated,	X
	9	CS	12.5	14.0	4	13	15	18	SC				with some silt.	Х
15	10	cs	14.0	15.5	4	9	12	18	SC				increase in silt content below 13.0 feet.	Х
												15.5	Bottom of Boring at 15.5 feet.	oxdot
					ļ									
						<b>-</b>							Notes:	$\perp$
								·						<u>_</u>
20													Boring was advanced using 8-inch-	$\perp$
	$\vdash$												diameter hollow stem augers.	_
	_											ĺ	0 Craymdyratanyra amazyratan dat	$\vdash$
	Н				<b>-</b>	H				}			Groundwater was encountered at     Second devices detailed.	$\vdash$
25					$\vdash$	-							5.5 feet during drilling.	-
23		_	-		<u> </u>	$\vdash$							3. Sampler type:	$\vdash$
					$\vdash$	$\vdash$							California Sampler (CS)	$\vdash$
						$\vdash$							O.D.: 2.5 inches	-
													I.D.: 2.0 inches	
30						$\Box$							- 32	
													4. Boring was converted to a monitoring	$\vdash$
													well upon completion of drilling.	$\vdash$
													, , , , , , , , ,	
													5. OVA readings:	
35													a) 200 ppm at 1.5 feet.	
													b) 20-30 ppm at 3.0 feet.	
40	<u> </u>													
			<u> </u>	-	ļ									$\square$
Page		L	<u> </u>	<u> </u>	L	L								$\perp$

PROJECT No. <u>86-018-1804</u>

BORING No. <u>MWD13-3</u>

LOGGED BY TGB

PRC	JEC	T NA	ME:		NAS	Alar	neda	- Pha	ase 2A S	Site In	/estiga	ations		
			ATION	l:					D13, by	_			SURFACE ELEV. 114.36 feet	
DRIL	LEF	₹:	Spec	trum E							: ST	•	7/6/90 FINISH 7/6/90	
DE		SAM	PLE			BLOW		REC	USCS	wc	qu	L D A E	SOIL DESCRIPTION	P
P T H	No.	TYPE	INTE	RVAL	0°	6" 12"	12"	(in)	SOIL TYPE	(%)	(TSF)	YPET	AND REMARKS	E Z
H			IFROIN			1 12	10 			<u> </u>	l I	RH	Asphalt. (Fill)	10
	1	cs	0.5	2.0	8	10	15	12	SM			0.5	Medium dense, light brown, silty fine	}
	2	cs	2.0	3.5	5	8	6	12	SM	ļ		0.0	sand, dry. (Fill)	$\vdash$
								1						
5	3	cs	3.5	5.0	3	1	1	12	SM				becomes saturated at 5.0 feet.	
	4	cs	5.0	6.5	2	7	9	6	SM			<b>6</b> .5	Concrete rubble between 5 and 10 feet.	×
	<u> </u>					<u> </u>							(Fill)	X
				<u> </u>			<del> </del>	-					(driller noted resistance at 5.0 feet.	X
10		-		<u> </u>	1	<del> </del>	<b></b>	}					boring location moved three times due to refusal.)	X
10	5	cs	10.0	11.5	5	5	5	12	CL			10.0	Medium stiff, dark gray, silty clay.	<del> </del>
	6	cs	11.5	13.0	7	13	18	18	SC			11.7	Medium dense, orange brown mottled	Ϋ́
İ	Ť	- 55	11.0	10.0	Ϊ́	1.0	"	'				.,,,	with clayey, fine sand, saturated, with	Î
	7	CS	13.0	14.5	8	9	19	18	sc				some silt. (Merritt Sand)	X
15	8	CS	14.5	15.0	10	12	15	6	sc					×
												15.0	Bottom of Boring at 15.0 feet.	
	L_													
	<u> </u>			ļ		<u> </u>	ļ						Notes:	L
				ļ		ļ	<u> </u>						. <b>.</b>	_
20				ļ		-	-						Boring was advanced using 8-inch-  diameters bellevi stars assessed.	<u> </u>
	<b> </b> -	<b> </b>		<b></b>	<b>-</b>								diameter hollow stem augers.	$\vdash$
	$\vdash$			<del> </del>	┢	-	<b></b> -			j			Groundwater was encountered at	$\vdash$
							_						5.0 feet during drilling.	-
25	$\vdash$	<u> </u>			<del></del>								5.5 tool daring arming.	$\vdash$
													3. Sampler type:	-
													California Sampler (CS)	
													O.D.: 2.5 inches	
	L_				L	L.,	L			İ			I.D.: 2.0 inches	
30	<u> </u>	<u> </u>			<u> </u>	<u> </u>								$\vdash$
	<u> </u>	ļ	ļ	<u> </u>	├	<u> </u>	<b> </b>						4. Boring was converted to a monitoring	<u> </u>
	$\vdash$	<b></b>	ļ	<b> </b>	<del> </del>		<u> </u>						well upon completion of drilling.	-
	_	<del>                                     </del>	<del>                                     </del>	<del> </del>	<del> </del>	<del>  -</del>	<del> </del>	1					5. OVA readings:	-
35					<b></b>	t		1					a) 2 ppm at 11.7 feet.	$\vdash$
"			<u> </u>					1					a, 2 pp a. 1 100s.	$\vdash$
1				<u> </u>				1						
			Ĺ		L			]						
								]						
40										1				
			<u> </u>		ļ	<u> </u>	ļ							$\vdash$
<u></u>	<u> </u>	L	<u> </u>	<u> </u>	1	L				<u> </u>	L			Щ
Page	e.	1	of	1										

PROJECT No. <u>86-018-1804</u>

BORING No. <u>MWD13-4</u>

LOGGED BY RMD

		T NA		١.					ase 2A S		vestiga			
			ATION						outh gate			•	SURFACE ELEV. 115.69 feet	
DRIL		<u> </u>	Spect	rum E	xpio	ration	n - G	arry E	Suss	DATE	: ST/		7/9/90 FINISH 7/9/90	T =
E		SAM	PLE		i .	BLOW		REC	USCS	wc	qu	A E Y P	SOIL DESCRIPTION	P E
T H	No.	TYPE	INTE FROM		0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	z o
													Asphalt. (Fill)	
	1	CS	2.0	3.5	30	21	19	17	SP			2.8	Dense, light brown, fine sand, moist. (Fill)	
5	2	CS	3.5	5.0	15	19	19	12	SP					H
								0	, .			5.0	Concrete rubble and silty sand. (Fill)	X
1													augered between 5 and 8 feet.	Х
	Ļ			0.5	10	-		0	0.0				saturated below 6.5 feet.	X
10	3	CS	8.0	9.5	40	25	35	8	GP			8.0	Dense, gray, silty sandy gravel, saturated. (Fill)	×
	4	CS	9.5	11.0	5	30	50	17	GP				augered between 11.0 and 12.5 feet.	X X
	5	CS	12.5	14.0	10	15	15	0	SM			12.5	Medium dense, brown, silty fine sand,	X
15	6	CS	14.0	15.5	8	10	15	18	SM				saturated.	X
												15.5	Bottom of Boring at 15.5 feet.	$\Box$
Ì													Notes:	H
						1							Notes.	H
20													1. Boring was advanced using 8-inch-	П
													diameter hollow stem augers.	
													Groundwater was encountered at	Н
													6.5 feet during drilling.	Н
25													g commig.	П
												!	3. Sampler type:	
								,					California Sampler (CS) O.D.: 2.5 inches	Н
													I.D.: 2.0 inches	Н
30														H
ŧ													4. Boring was converted to a monitoring	
													well upon completion of drilling.	Н
	$\vdash$			-									5. OVA readings: No OVA readings	H
35													observed during drilling.	H
	$\vdash$													Н
40	$\vdash$													Н
"														H
											Ll			$\Box$
Page	:	1	of	1										

 PROJECT No.
 86-018-1804

 BORING No.
 BD13-5

 LOGGED BY RMD

_		T NAI							ase 2A S		estiga		CUREACE ELEV	
			NOITA						f Yard [		OT.	•	SURFACE ELEV. 113.9 feet	
DRIL	LEH	l:	Spect	rum E	:xpio	ratior	1 - Ga	arry E	suss	DATE	: ST	LD	7/3/90 FINISH 7/3/90	ΙP
D E P	i	SAMI	PLE			BLOW		REC	USCS SOIL	wc	qu	A E Y P	SOIL DESCRIPTION	I
T H	No.	TYPE	INTE FROM		0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	z 0
	1	CS	0.0	1.5	9	13	13	15	SM				Asphalt. (Fill)	$oxed{\Box}$
												1.0	Loose, brown, silty fine sand, moist. (Fill)	
	2	CS	1.5	3.0	8	16	17	15	SM				becomes medium dense below 1.5 feet.	
	3	cs	3.0	4.5	6	8	6	16	SM					<u>_</u>
5					ļ								becomes saturated below 4.5 feet.	
İ	4	CS	4.5	6.0	2	5	10	12	SM	:			color change to gray brown at 5.8 feet.	$\vdash$
	5	CS	6.0	7.5	5	3	6	12	SM			J -	Loose gray silty gravally fine and	$\mathcal{F}$
	6	CS	7.5	9.0	5	3	6	0	SP			7.5	Loose, gray silty gravelly fine sand, saturated, with concrete and brick	
10	7	CS	9.0	10.5	6	9	8	16	SM			9.0	fragments. (Fill)	$\vdash$
'	$\vdash$	- 00	9.0	10.5	-	٦			0.41			3.0	Medium dense orange brown, clayey,	$\vdash$
	8	cs	10.5	12.0	8	15	16	16	SM				silty fine sand, saturated, with trace	
ļ	9	CS	12.0	13.5	4	10	10	16	SM			ļ	of clay. (Merritt Sand)	Г
													some gray mottling between 11 and	
15	10	cs	13.5	15.0	6	10	11	14	SM			ļ	12.5 feet.	
					<u>L_</u>			Į		ļ		15.0	Bottom of Boring at 15.0 feet.	
											ļ		<b></b>	_
1					_								Notes:	<u> </u>
						<u> </u>					ŀ		1. Poring was advanged using 9 inch	
20					-								Boring was advanced using 8-inch- diameter hollow stem augers.	
							<u> </u>	1					diameter fioliow stem augers.	$\vdash$
	$\vdash$					-		1			 		Groundwater was encountered at	H
													4.5 feet during drilling.	$\vdash$
25								1			l	į	3	
								1				ŀ	3. Sampler type:	
								]					California Sampler (CS)	
Ì								]	Ì		1		O.D.: 2.5 inches	
	<u> </u>			ļ	<u> </u>	L		1					I.D.: 2.0 inches	<u> </u>
30	<u> </u>	ļ		<b> </b>		<b> </b>		1				}	A Davis and the statistical of the same of	<b> </b>
1		<del>                                     </del>		<del> </del>		<u> </u>	<u> </u>	ł					4. Boring was backfilled with cement/	$\vdash$
	<u> </u>	<del>  -</del>		<b> </b>	-	<b>├</b> ─		1				ļ	bentonite grout upon completion of drilling.	$\vdash$
	-			<del> </del>	-	$\vdash$	<del> </del>	1				ŀ	urining.	-
35	$\vdash$	<del>                                     </del>	<del> </del>	<b>-</b>	-	<del> </del>	$\vdash$	1					5. OVA readings: No OVA readings	$\vdash$
33	$\vdash$	<del>                                     </del>	<del>                                     </del>	<del>                                     </del>	$\vdash$	<del>                                     </del>	-	1	]				observed during drilling.	-
	<u></u>	<del>                                     </del>	<del>                                     </del>		<del>                                     </del>	$\vdash$	_	1					Section adming driming.	
	$\vdash$		<b></b>			1		1		1				
						<b>†</b>		1						
40								]	ļ					
								]						
				<u> </u>		<u> </u>	<u> </u>	<u> </u>	L	<u> </u>				
Page	<b>)</b> :	1	of	1										

PROJECT No. 86-018-1804

BORING No. BD13-6

LOGGED BY BB

BBO	IEC	T NAI	AE.		NAC	Alan		Ph	ase 2A S	Sito In	voetige	tions		_
			VIC. ATION						ng 616 i				URFACE ELEV. 114.1 feet	
DRIL			Spect								: STA		7/3/90 FINISH 7/3/90	
D E P		SAMI				BLOW	!	REC	USCS SOIL	wc	qu	L D A E Y P	SOIL DESCRIPTION	P
T H	No.	TYPE	INTE		0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	z
	1	cs	0.0	1.5	10	15	18	15	SM			0.3	Asphalt. (Fill)	Ī
	2	cs	1.5	3.0	8	16	13	15	SM				Medium dense, light brown, silty fine sand, moist. (Fill)	F
	3	cs	3.0	4.5	7	12	12	15	SM					
5								]						
	4	CS	4.5	6.0	5	6	4	12	SM			5.0 7.0	Loose to medium dense, dark gray, silty fine sand, saturated. (Fill)	H
	5	CS	6.0	7.5	2	5	6	18	SM	[		7.0	thin layer of silty clay at 6.5 feet.	$\vdash$
	6	CS	7.5	9.0	3	3	5_	18	SM	}		8.0	Medium dense dark gray, silty fine sand, /	
10	7	CS	9.0	10.5	3	5	15	18	SC				\_saturated	L
	_		10.5	12.0	2		18	18	sc				Loose reddish brown mottled gray, clayey fine sand, saturated, with some	H
	8	CS CS	10.5	13.5	4	10	16	16	SC		·		silt, (Merritt Sand)	$\vdash$
								]					becomes medium dense below 9 feet.	
15	10	CS	13.5	15.0	5	5	20	18	SC				Bana of Barina at 45 0 feet	╀
				<u> </u>				1				15.0	Bottom of Boring at 15.0 feet.	-
								1					Notes:	一
								]						
20			<u> </u>					4					Boring was advanced using 8-inch- diameter hellow stam suggests.	H
1				_	-			1					diameter hollow stem augers.	$\vdash$
1			<del>                                     </del>	_	-	<b>†</b>		1	· '				2. Groundwater was encountered at	
								]					5.0 feet during drilling.	
25	_			<u> </u>	ļ	<del>                                     </del>	<u> </u>	-					2 Campler type:	$\vdash$
	<u> </u>		-		<del> </del>	<del>                                     </del>	_	1					Sampler type:     California Sampler (CS)	$\vdash$
1	<u> </u>							1					O.D.: 2.5 inches	L
								]					I.D.: 2.0 inches	L
30	_			-	-	-	_	-				}	Boring was backfilled with cement/	$\vdash$
	$\vdash$	$\vdash$				-	-	1					bentonite grout upon completion of	<u> </u>
								]	1			1	drilling.	
								4					5 OVA readings	L
35	<u> </u>	<u> </u>	<del>-</del>		-	<del> </del>	-	1.					5. OVA readings: a) 10 ppm at 0.5 feet.	-
	$\vdash$	-	<del>                                     </del>	ļ	-	$\vdash$	-	1					b) 30 ppm at 6.5 feet.	
								]	1	]				
								-						L
40	-		-	├	-	┼—	-	-			)			$\vdash$
	<b></b>	<u> </u>	<del> </del>	<del>                                     </del>	-	<del>                                     </del>	$\vdash$	1						$\vdash$
Page	);	1	of	1	1									

PROJECT No. <u>86-018-1804</u>

BORING No. <u>BD13-7</u>

LOGGED BY <u>RMD</u>

PRO	JEC	T NAI	ME:		NAS	Alan	neda	- Pha	ase 2A S	Site Inv	estiga/	tions		
BOR	ING	LOCA	ATION						f Yard D				URFACE ELEV. 114.1 feet	
DRIL				rum E							: STA		7/3/90 FINISH 7/3/90	_
D E P		SAMI				BLOW	,	REC	USCS SOIL	wc	qu	L D A E Y P	SOIL DESCRIPTION	P - E
T H	No.	TYPE	INTE FROM		0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	Z
	1	CS	0.0	1.5	15	18	14	15	SM			0.3	Asphalt. (Fill)	
		CC	1.5	20	4	6	12	12	SM				Medium dense, light brown, silty fine sand. (Fill)	_
	2	CS	1.5	3.0	-	0		12	SIVI				some cobbles and wood fragments	
5													between 3 to 4.5 feet.	
	3	CS	4.5	6.0	5	7	5	18	SM	Ì	)	4.5	Loose, medium dense dark brown, silty	
	4	CS	6.0	7.5	3	5	7	12	SM			7.0	fine sand, saturated.	
	5	CS	7.5	9.0	3	3	4	15	SM				Medium dense brown, silty fine sand.	_
10	6	CS	9.0	10.5	6	6	11	14	SM-SC			9.5	Medium dense orange brown, mottled	_
,0	Н	- 00	9.0	10.5	"	۰	┝╌	'	0141-00			3.5	gray, clayey fine sand, with some gray	_
	7	CS	10.5	12.0	2	2	4	15	sc				mottled abundant iron-stained	Т
	8	CS	12.0	13.5	5	8	10	15	SC				laminations at top of unit.	Г
								1					(Merritt Sand)	
15	9	CS	13.5	15.0	8	15	15	14	sc					
. 1								]		1		15.0	Bottom of Boring at 15.0 feet.	
. 1													Notes:	
											İ :			
20					<u> </u>	<u> </u>		Į į					Boring was advanced using 8-inch-	
	<u> </u>			<u> </u>		<u> </u>							diameter hollow stem augers.	_
					-	ļ		4						_
			<u> </u>		—	<u> </u>	<u> </u>						Groundwater was encountered at	_
	$\vdash$				ļ	ļ	<u> </u>						4.5 feet during drilling.	_
25	ļļ			<del> </del> -	├	<del> </del>	<u> </u>	4					O. Complet time:	-
	Н		<del> </del>		-	<del>├</del> -	-	-					3. Sampler type:	
				<del> </del>	<del>  -</del>	-		4					California Sampler (CS) O.D.: 2.5 inches	_
	$\vdash\vdash$			<del> </del>	╁	┼─	<del> </del>	1					I.D.: 2.0 inches	_
30	-		<del> </del>	<del>                                     </del>	-	+-	<del>                                     </del>	1			] .		I.D., 2.0 IIICHES	_
3U	$\vdash$		<del> </del>	<del> </del>	$\vdash$	+	<del>                                     </del>	1					Boring was backfilled with cement/	-
				<del>                                     </del>	$\vdash$	<del>                                     </del>	<del>                                     </del>	1					bentonite grout upon completion of	
	<del>                                     </del>			t	<b>†</b>	$t^-$	<del>                                     </del>	1		1			drilling.	-
1	$\vdash$				$\vdash$	t		1					<del>-</del>	_
35				·	1			1					5. OVA readings: No OVA readings	
1								]					observed during drilling.	
1								]	•					
ĺ								}		1				
1								]						
40								1	ļ					_
1				<u> </u>		<u> </u>		1						L
1	1	<b>!</b>	1	1	1	1		1		1	ı		1	

PROJECT No. 86-018-1804

BORING No. BD13-8

LOGGED BY RMD

PRC	JEC	TNA	ME:		NAS	Alar	neda	- Pha	ase 2A	Site In	vestia:	ations	
BOF	ING	LOC	ATION	l:					16 in Ya				URFACE ELEV. 114.5 feet
DRIL	LER	<b>l</b> :	Speci	trum E							: ST	•	7/5/90 FINISH 7/5/90
D E P		SAM	PLE		!	BLOW		REC	USCS SOIL	wc	qu	L D A E Y P	SOIL DESCRIPTION
T H	No.	TYPE	INTE FROM		0"	6" 12"	12"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS
	1	CS	0.0	1.5	30	17	20	13	SP		Ī	0.3	Asphalt. (Fill)
								]				0.8	Base rock. (Fill)
	2	CS	1.5	3.0	7	12	13	14	SP				Medium dense, light brown, fine sand,
	3	cs	3.0	4.5	5	4	9	12	SP				moist. (Fili)
5													becomes saturated below 4.5 feet.
	4	CS	4.5	6.0	10	15	14	13	SM			5.0	Medium dense, grayish brown, gravelly
	5	<u>cs</u>	6.0	7.5	7	7	3	12	SM				silty sand, saturated. (Fill)
													(driller reports very runny, some rock
	6	CS	7.5	9.0	3	4	12	8	SM				fragments.)
10	7	CS	9.0	10.5	4	10	9	9	SM				
	8	cs	10.5	12.0	5	5	10	15	sc			10.5	Medium dense, gray, clayey fine sand,
	9	CS	12.0	13.5	5	10	20	13	SC	ŀ		11.5	saturated.
	Ť		12.0	10.0	Ť	<del>  '`</del>		'	50			11.5	black discoloration and soupy
15	10	CS	13.5	15.0	7	10	15	9	SC				conditions at 10.5 feet, strong odor.
												15.0	some gravel and rock fragments. (Fill)
		-						1 1					Medium dense to to dense, orange
				- "									brown, clayey sand, saturated.
													(Merritt Sand)
20													some gray mottling at 14 feet.
													Bottom of Boring at 15.0 feet.
						<u> </u>							Notes:
													<ol> <li>Boring was advanced using 8-inch-</li> </ol>
25													diameter hollow stem augers.
										Ì			
													Groundwater was encountered at
				-	<b></b> -								5.0 feet during drilling.
30	$\vdash\vdash$					<del>                                     </del>							2 Sampler type:
<b>3</b> U													3. Sampler type:
	-				-								California Sampler (CS) O.D.: 2.5 inches
	$\vdash$					-							I.D.: 2.0 inches
	$\vdash\vdash\vdash$												1.D., 2.0 HIGHES
35	$\vdash$		<del>                                     </del>				<u> </u>						4. Boring was backfilled with cement/
-5	$\vdash$												bentonite grout upon completion of
													drilling.
													5. OVA readings:
40													a) 10 -30 ppm at 6.5 feet.
													b) 20 ppm at 9.0 feet.
			l		l			1 1		İ			c) 100-150 ppm at 10.5 feet.

PROJECT No. <u>86-018-1804</u>

BORING No. <u>BD13-9</u>

LOGGED BY RMD

PRO	JEC	T NAI	ME:		NAS	Alan	neda	- Pha	ase 2A S	Site In	vestida	ations		
BOR	ING	LOC	ATION	l:					of Build				URFACE ELEV. 114.7 feet	
DRIL	LER	l:	Spect	rum E	xplo	ration	1 - G	arry E	Buss	DATE	: ST	•	7/5/90 FINISH 7/5/90	
D E P		SAMI	PLE			BLOW		REC	USCS SOIL	wc	qu	7 A Y D	SOIL DESCRIPTION	P I E
T H	No.	TYPE	INTE		0" 6"	6"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	z
	1	CS	0.0	1.5	16	20	18	13	SM		<u> </u>		Asphalt. (Fill)	Ť
	2	CS	1.5	3.0	10	17	14	15	SM			0.8	Medium dense to dense, brown, silty fine sand, moist. (Fill)	
5	3	CS	3.0	4.5	6	7	7	14	SM				saturated below 4.5 feet.	$\vdash$
٦	4	CS	4.5	6.0	4	7	5	12	SM				thin layer of gray clay at 4.5 feet.	$\vdash$
	5	CS	6.0	7.5	15	9	17	16	SM-SP	1		6.5	interlayered gray clay below 5 feet.	一
	Ť		5.5		1,0	Ť			0			0.0	Medium dense, gray, fine to medium sand,	$\vdash$
	6	cs	7.5	9.0	4	10	12	18	SP				saturated, with abundant tiny round	
10	7	CS	9.0	10.5	4	14	20	16	SP-SC			9.7	shells.	厂
													Dense, orange brown clayey sand,	
	8	cs	10.5	12.0	5	12	18	16	sc				saturated. (Merritt Sand)	
	9	CS	12.0	13.5	12	12	15	15	SC				thin layer of gray silty sand at 10.5 to	
					<u> </u>								11.3 feet, some shells.	<u></u>
15	10	CS	13.5	15.0	15	21	15	18	SC				D. H	
					<u> </u>							15.0	Bottom of Boring at 15 feet.	<u> </u>
													Notes:	-
										•			110100.	<u> </u>
20													1. Boring was advanced using 8-inch-	$\vdash$
													diameter hollow stem augers.	$\Gamma$
													-	
													<ol><li>Groundwater was encountered at</li></ol>	
													4.5 feet during drilling.	
25														<u> </u>
													3. Sampler type:	_
					ļ								California Sampler (CS)	<u> </u>
													O.D.: 2.5 inches I.D.: 2.0 inches	<u> </u>
30													I.D., 2.0 INCIDES	-
~		-	-		<del>                                     </del>								4. Boring was backfilled with cement/	-
	$\vdash$			<del></del>		$\Box$							bentonite grout upon completion of	$\vdash$
													drilling.	
													•	
35													5. OVA readings: No OVA readings	
													observed during drilling.	
					<u> </u>	igsquare								Ц
	Ш		ļ		<u> </u>	<b> </b>			•					<u></u>
ا ۔ ا			<b> </b>		<u> </u>									$\vdash$
40			<b></b>											$\vdash$
	$\vdash$		<del>                                     </del>			<del>                                     </del>								$\vdash$
Page	<u>.                                    </u>	1	of	1	L		L			Ь	ı	LI		1

PROJECT No. 86-018-1804

BORING No. BD13-10

LOGGED BY GM

PRO	JEC	T NA	ИE:		NAS	Alan	neda	- Pha	ase 2A S	ite Inv	estiga	tions	
	-		ATION						ng 616 i				URFACE ELEV. 114.6 feet
DRIL	LER	:	Spect	rum E	xplo	ratior	1 - G	arry E	Buss	DATE	: STA		7/5/90 FINISH 7/5/90
D E P	ı	SAMI	PLE			BLOW		REC	USCS	wc	qu	L D A E I Y P	SOIL DESCRIPTION
T H	No.	TYPE	INTE FROM		0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS
	1	cs	0.0	1.5	12	20	15	13	SM				Asphalt. (Fill)
												0.8	Medium dense, light brown, silty fine sand,
	2	CS	1.5	3.0	5	4	5	12	SM				dry. (Fill)
_	3	cs	3.0	4.5	5	7	7_	15	SM				color change to dark brown at 3.0 feet. saturated below 4.5 feet.
5	4	CS	4.5	6.0	2	4	4	14	SM				color change to gray at 7.0 feet.
	5	CS	6.0	7.5	2	3	2	18	SM-SC				color change to gray at the teen
	H		<u> </u>									\ 	
	6	CS	7.5	9.0	3	3	5	15	sc-sc			8.5	Medium dense, mottled gray-orange
10	7	CS	9.0	10.5	7	9	10	18	CL	ļ	}	9.7	brown clayey sand, saturated.
							<u> </u>	1			İ	·	(Merritt Sand)
	8	CS	10.5	12.0	10	14	9	18	CL-SC			11.0	Medium dense, mottled orange brown, gray sandy clay, saturated, some layers
	9	CS	12.0	13.5	10	12	13	1	sc				of silty fine sand. (Merritt Sand)
15	10	CS	13.5	15.0	9	14	16	1	l sc				Medium dense orange brown, clayey
15	10	- 03 -	13.3	15.0	-	1 '-	10	1	30	Ì	1	15.0	sand, saturated, some layers of
					<u> </u>	-		1	Ì				silty sand. (Merritt Sand)
								1				}	Bottom of Boring at 15.0 feet.
						İ		]					
20								]	]				Notes:
					↓	<u> </u>	ļ	1					A B to a set an and action 0 to b
	_		<u> </u>	<u> </u>	-	<u> </u>	<u> </u>	┨		Į.		Į.	Boring was advanced using 8-inch- diameter bellow stem augusts.
		<u> </u>			ļ	<b> </b> -	-	-					diameter hollow stem augers.
25	-	<u> </u>			-	├─	├	1		1		1	2. Groundwater was encountered at
23	<b>-</b>	<del></del>	├──		-	<del>                                     </del>	<del>                                     </del>	1			]		4.5 feet during drilling.
	<b>-</b>				<del>                                     </del>	<del>                                     </del>	<u> </u>	1					
	$\vdash$				1		<del>                                     </del>	1	1			1	3. Sampler type:
								1	1				California Sampler (CS)
30						Ĭ		]	1	1			O.D.: 2.5 inches
								]					I.D.: 2.0 inches
					ļ	<b></b>		1				<b>!</b>	
		<u> </u>	<u> </u>	ļ	$\downarrow$	<b> </b>	<u> </u>	4					4. Boring was backfilled with cement/
<b>6</b> -	<u> </u>	<del>                                     </del>		<del> </del>	$\vdash$	-	├-	-					bentonite grout upon completion of drilling.
35	-		+	<del> </del>	+	+-	┼	1					Grinning.
	-	<del> </del> -	<del> </del>	$\vdash$	+	+	+-	1					5. OVA readings: No OVA readings
	<b> </b>	<del>                                     </del>	<del>                                     </del>	†	<del>                                     </del>	1	<del>                                     </del>	1			1		observed during drilling.
			1		1	†	$\vdash$	1					
40			<del>                                     </del>			1		1					}
ı										1	1		
ĺ						T		1		1		1	

PROJECT No. <u>86-018-1804</u>

BORING No. <u>BD13-11</u>

LOGGED BY <u>BB</u>

		T NAI							ase 2A S		vestiga		
OR	ING	LOC	ATION	:	Wes	t side	of Y	ard [	013 by f	ence		. s	URFACE ELEV. 114.2 feet
	LER	l:	Spect	rum E	xplo	ratior	1 - G	arry E	Buss	DATE	: ST/	ART	7/10/90 FINISH 7/10/90
D E		SAMI	PLE		I	BLOW		REC	USCS	wc	qu	L D A E Y P	SOIL DESCRIPTION
T H	No.	TYPE	INTE FROM		0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS
													Asphalt. (Fill)
	1 2	CS CS	0.5 2.0	2.0 3.5	12	9	15 10	14 15	SM SM			0.5	Medium dense, light brown, silty fine sand, moist. (Fill)
5	3	CS	3.5	5.0	3	11	13	13	SM			4.5	Medium dense, orange dark brown to
5	4	CS	5.0	6.5	11	13	10	6	SM			1.5	brown gray, gravelly silty sand,
	5	CS	6.5	8.0	3	5	6	6	SM			 	moist. (Fill) concrete and rock debris below 6.5 feet.
10	6	cs	8.0	9.5	4	25		6	SM				(auger tipped sideways due to concrete; hole was relocated; interval
10	7	CS	9.5	11.0	4	6	6	6	SM			10.0	started at 6.5 feet.)
	8	cs	11.0	12.5	9	10	19	12	CL			11.5	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
	9	CS	12.5	14.0	10	20	30	18	sc				saturated.
15	10	CS	14.0	15.5	18	16	25	18	SC			15.5	Medium, dense, orange brown clayey fine sand, saturated. (Merritt Sand)
								}					becomes dense at 14.0 feet.  Bottom of Boring at 15.5 feet.
								1					Ţ.
20						<u> </u>							Notes:
													Boring was advanced using 8-inch- diameter hollow stem augers.
								]					diameter hollow stem augers.
25													Groundwater was encountered at 6.5 feet during drilling.
	_					<del> </del>		$\blacksquare$					3. Sampler type:
								]					California Sampler (CS)
30								1					O.D.: 2.5 inches I.D.: 2.0 inches
	<u> </u>			-	<del> </del>	-							Boring was backfilled with cement/
35								1					bentonite grout upon completion of drilling.
J								1					
	<u> </u>		-		-	_	-	1					5. OVA readings: No OVA readings observed during drilling.
40								]					
40								1					
								<u> </u>	<u> </u>	<u></u>	1		

PROJECT No. 86-018-1804

BORING No. BD13-12

LOGGED BY RMD

PRO	JEC	T NA	ME:		NAS	Alar	neda	- Pha	ase 2A S	Site In	vestiga	ations		=
ВОР	RING	LOC	ATION	l:				d D13			3		URFACE ELEV. 115.6 feet	_
DRI	LLEF	₹:	Spect	trum E	xplo	ratio	ո - Ga	arry E	Buss	DATE	: ST	•	7/9/90 FINISH 7/9/90	
DEP		SAM	PLE		i	BLOW		REC	USCS SOIL	wc	qu	L D A E Y P	SOIL DESCRIPTION	1
т Н	No.	TYPE	INTE FROM	RVAL TO	0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	
													Asphalt. (Fill)	Ť
	1	cs	1.0	2.5	15	29	31	15	SM			1.3	Dense, light brown, silty fine sand, moist.	I
	2	CS	2.5	4.0	15	20	21	16	SM				(Fill)	L
5	3	CS	4.0	5.5	9	7	2	13	SM				becomes loose at 4.5 feet.	-
	4	CS	5.5	7.0	5	2	1	12	SC			6.5	Soft, gray clayey sand, saturated.	ŀ
								] ;						╁
	5	CS	7.0	8.5	2	1	1	15	SC					
10	6	CS	8.5	10.0	6	16	21	17	sc			9.0	thin layer of clay at 8.5 feet.	Ļ
10	7	CS	10.0	11.5	3	13	21	15	sc				layer of black clayey sand at 8.5 to 9.0 / feet, oily discoloration.	ŀ
	8	cs	11.5	13.0	6	13	20	13	SC				Medium dense orange brown, clayey fine	H
								]					sand, saturated, with trace of silt.	L
	9	CS	13.0	14.5	6	13	12	15	SC				(Merritt Sand)	
15	10	CS	14.5	16.0	6	12	19	18	SC			16.0	Rottom of Paring at 16.0 feet	F
	<del>                                     </del>											10.0	Bottom of Boring at 16.0 feet.	╀
								1					Notes:	H
	<u> </u>													
20	<u> </u>						<u> </u>						Boring was advanced using 8-inch-  diameter to all years and a line and	L
	$\vdash$												diameter hollow stem augers.	F
													2. Groundwater was encountered at	ŀ
													5.3 feet during drilling.	r
25														Ľ
													3. Sampler type:	L
													California Sampler (CS) O.D.: 2.5 inches	F
													I.D.: 2.0 inches	-
30														r
													Boring was backfilled with cement/	
	$\vdash\vdash$												bentonite grout upon completion of	L
	$\vdash$												drilling.	H
35	П												5. OVA readings: No OVA readings	r
													observed during drilling.	
													-	
														L
40	-													F
														-
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Page	:	1	l of	1	ئــــا	Щ	L			L			24.0	L

PROJECT No. <u>86-018-1804</u>

BORING No. <u>BD13-13</u>

LOGGED BY <u>BB</u>

No.   Type	PRC	JEC	T NA	ME:		NAS	Alar	neda	- Ph:	ase 2A S	Site In	vestica	ations		_
DRILLER:   Spectrum Exploration - Garry Buss   DATE: START   7/11/90   FINISH   7/11/90	-	-			<b>l</b> :									URFACE ELEV. 114.9 feet	
SAMPLE															
No   TYPE     NTERVAL     NTERVAL     NTERVAL     NTERVAL     NTERVAL     NTERVAL     NTERVAL     NTERVAL     NTERVAL     NTERVAL   NT													L D		TP
No.   TYPE   NTERVAL   0'   6'   12'   18'			SAM	PLE		1			REC		wc	qu	1	SOIL DESCRIPTION	- 1
H		No	TVDE	INITE	D\/AI	·	,	,	(in)		/9/1	/TOES	1	AND DEMARKS	1
1		110.	' ' ' ' ' '	$\overline{}$				_	(111)	1175	( /6)	(135)	1	AND REMARKS	- 1
1 CS 2.0 3.5 10 5 5 15 SM 2 CS 3.5 5.0 10 10 10 2 SM 3 CS 5.0 6.5 10 5 0 SM 4 CS 6.5 8.0 2 1 3 12 SM 5 CS 8.0 9.5 6 7 25 18 SM 7 CS 11.0 12 20 25 14 SM 8 CS 12.5 14.0 12 10 11 14 SM 9 CS 14.0 15.5 10 12 14 18 SM 15 CS 14.0 15.5 10 12 14 18 SM 16 CS 12.5 14.0 12 10 11 14 SM 17 CS 11.0 12.5 10 15 12 14 18 SM 18 CS 12.5 14.0 12 10 11 14 SM 19 CS 14.0 15.5 10 12 14 18 SM 15 CS 10 S 10 S 10 S 10 S 10 S 10 S 10 S 1				İ										Asphalt. (Fill)	Ť
CFill   Concrete encountered at 4.5 and 6.0   CFill   Concrete encountered at 4.5 and 6.0   CFill   Concrete encountered at 4.5 and 6.0   CFill   Concrete encountered at 4.5 and 6.0   CFill   Concrete encountered at 4.5 and 6.0   CFill   Concrete encountered at 4.5 and 6.0   CFill   Concrete encountered at 4.5 and 6.0   CFill   Concrete encountered at 4.5 and 6.0   CFill   Concrete encountered at 4.5 and 6.0   CFill   Concrete encountered at 4.5 and 6.0   CFill   Concrete encountered at 4.5 and 6.0   CFIL															r
5 2 CS 3.5 5.0 10 10 10 2 SM SM SM SM S 5.0 5.0 10 5 5 0 SM SM SM S CS 8.0 9.5 6 7 25 18 SM F CS 11.0 12.5 10 15 12 18 SM SM SM S CS 12.5 14.0 15.5 10 12 14 18 SM SM SM S CS 14.0 15.5 10 12 14 18 SM SM SM S CS 14.0 15.5 10 12 14 18 SM SM SM S CS 14.0 15.5 10 12 14 18 SM SM SM S CS 14.0 15.5 10 12 14 18 SM SM SM S CS 14.0 15.5 10 12 14 18 SM SM SM S CS 14.0 15.5 10 12 14 18 SM SM SM SM SM S CS 14.0 15.5 10 12 14 18 SM SM SM SM SM SM SM SM SM SM SM SM SM		1	cs	2.0	3.5	10	5	5	15	SM			2.0	,	I
3		<u> </u>		<u> </u>		<u> </u>								l ` '	L
10	5	⊢	-	+		<del></del>	-				}				-
4 CS 6.5 8.0 2 1 3 12 SM SM SM SM SM SM SM SM SM SM SM SM SM		3	US	5.0	6.5	10	5		U	2M					$\vdash$
5   CS   8.0   9.5   6   7   25   18   SM		4	CS	6.5	8.0	2	1	3	12	SM			65		$\vdash$
10   6   6   CS   9.5   11.0   12   20   25   14   SM     7   CS   11.0   12.5   10   15   12   18   SM     8   CS   12.5   14.0   15.5   10   12   14   18   SM     9   CS   14.0   15.5   10   12   14   18   SM     15   9   CS   14.0   15.5   10   12   14   18   SM     16   9   CS   14.0   15.5   10   12   14   18   SM     17   18   18   18   18   18   18     18   18		5				-		_	•	_			1		上
7 CS 11.0 12.5 10 15 12 18 SM  8 CS 12.5 14.0 12 10 11 14 SM  9 CS 14.0 15.5 10 12 14 18 SM  15 9 CS 14.0 15.5 10 12 14 18 SM  20	10			<u> </u>											
8 CS 12.5 14.0 12 10 11 14 18 SM SM SM SM SM SM SM SM SM SM SM SM SM		6	-	+		+	<u> </u>		14	SM					
8		7	CS	11.0	12.5	10	15	12	18	SM					$\perp$
15.5   9   CS   14.0   15.5   10   12   14   18   SM     20		-	CS	12.5	14.0	12	10	11	14	CNA				no clay below 12.5 feet.	-
15.5 Bottom of Boring at 15.5 feet.  Notes:  1. Boring was advanced using 8-inchdiameter hollow stem augers.  2. Groundwater was encountered at 6.5 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: No OVA readings observed during drilling.	15	Ť	-	<del></del>		<del></del>	<del>-</del>	-	1 ' '	_					-
Notes:  1. Boring was advanced using 8-inch-diameter hollow stem augers.  2. Groundwater was encountered at 6.5 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: No OVA readings observed during drilling.		۲		1	10.0	"				0			15.5	Bottom of Boring at 15.5 feet.	╁
1. Boring was advanced using 8-inchdiameter hollow stem augers.  2. Groundwater was encountered at 6.5 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches 1.D.: 2.0 inches  4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: No OVA readings observed during drilling.	İ										ŀ			3	
diameter hollow stem augers.  2. Groundwater was encountered at 6.5 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.  5. OVA readings: No OVA readings observed during drilling.														Notes:	
diameter hollow stem augers.  2. Groundwater was encountered at 6.5 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.  5. OVA readings: No OVA readings observed during drilling.			ļ	ļ		ļ								, <b>_</b> ,	L
2. Groundwater was encountered at 6.5 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches 4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: No OVA readings observed during drilling.	20		<u> </u>											,	$\vdash$
6.5 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches 1.D.: 2.0 inches  4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: No OVA readings observed during drilling.			<b></b>		<u> </u>	├	-							diameter nollow stem augers.	$\vdash$
6.5 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches 1.D.: 2.0 inches  4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: No OVA readings observed during drilling.														Groundwater was encountered at	$\vdash$
3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.  5. OVA readings: No OVA readings observed during drilling.											1				$\vdash$
California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.  5. OVA readings: No OVA readings observed during drilling.	25														
O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.  5. OVA readings: No OVA readings observed during drilling.					ļ		<u> </u>							, , , , ,	
1.D.: 2.0 inches  4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: No OVA readings observed during drilling.		<u> </u>												i i i	_
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: No OVA readings observed during drilling.		-	<del>                                     </del>				-								-
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: No OVA readings observed during drilling.	30	$\vdash$			<u> </u>									I.D., Z.U INCHES	$\vdash$
bentonite grout upon completion of drilling.  5. OVA readings: No OVA readings observed during drilling.		$\vdash$												4. Boring was backfilled with cement/	$\vdash$
5. OVA readings: No OVA readings observed during drilling.															$\vdash$
40 Observed during drilling.														drilling.	
40 Observed during drilling.															
40	35		<del> </del>	<b> </b>	<u> </u>	-									$\vdash$
		<u> </u>	-	1	<del>                                     </del>									observed during drilling.	-
		$\vdash$	<del> </del>	<del> </del>	<del>                                     </del>										$\vdash$
					<u> </u>									·	
	40														
	<u></u>	<u>j</u>	1	<u> </u>	<u> </u>	<u> </u>	<u> </u>								

PROJECT No. <u>86-018-1804</u>

BORING No. <u>BD13-14</u>

LOGGED BY BB

	150	TALA	45.	77-	NIAC			Dh		\\\\ - \. \		<u></u>		
		T NAI	ME: ATION						ase 2A S D13 on				URFACE ELEV. 115.2 feet	
DRIL			Spect								: ST/	•	7/9/90 FINISH 7/9/90	
D	LEN	1.	Speci	i ui i i L	.xpio	latioi	1 - 0	l l	ouss	DAIL	. 31/	L D	7/3/30 1 1111311 1/3/30	Р
Ε		SAM	PLE		l	BLOW		REC	USCS	wc	qu	AΕ	SOIL DESCRIPTION	
P		7/05	INTE	DV/A1	0"	6"	T 12"	(°-)	SOIL TYPE	(0()		Y P E T	AND DEMARKS	٤
H	No.	TYPE	FROM		6"	12"	18"	(in)	ITPE	(%)	(TSF)	RH	AND REMARKS	Z
													Concrete. (Fill)	Ħ
												1.0	Dense, dark to light brown, silty fine sand,	
	1	CS	1.5	3.0	30	32	19	15	SM				moist. (Fill)	L
_						45	-10						concrete debris between 4.5 and 6.0	-
5	2	CS	3.0	4.5	15	15	18	15	SM				feet.	-
						$\vdash$		1					becomes saturated at 6.0 feet.	一
İ	3	CS	6.0	7.5	6	5	50	0	SM				concrete encountered 6.5 to 9.0 feet.	
								]						
10			6.5	45 -	_	_	<u> </u>	,	25			0.0	Modium dones brown grove silter conde	$\vdash$
	5	CS CS	9.0	10.5 12.0	8 5	8 20	3 15	8	GP GP			9.0	Medium dense brown gray, silty, sandy gravel, saturated.	H
	٦		10.5	12.0	۲	20	,,,		Ŭ,				cobbles at 10.5 feet.	H
								1						匚
15	6	CS	13.5	15.0	22	22	15	18	SM			13.5	Dense, dark reddish brown, silty fine sand,	L
													saturated, trace of clay, some interbedded clayey sand.	ļ
	7	CS	15.0	16.5	16	25	25	18	SM			16.5	(Merritt Sand)	
	$\vdash$		-			<del> </del>		1				10.5	Bottom of Boring at 16.5 feet.	$\vdash$
20								1					Ğ	
			ļ										Notes:	_
			ļ					-					4 Paring was advanced using 0 inch	<u> </u>
			<u> </u>			-		1					Boring was advanced using 8-inch- diameter hollow stem augers.	├
25	H							1					diameter nonew stern augers.	H
								1	1				2. Groundwater was encountered at	
								]				}	6.0 feet during drilling.	
		ļ	<u> </u>					-					2. Complet time:	L
20	-	-		<u> </u>	-		-	1					Sampler type:     California Sampler (CS)	$\vdash$
30	<del> </del>		<del> </del>	<del> </del>	_			┨					O.D.: 2.5 inches	-
			<b> </b>					1					I.D.: 2.0 inches	Г
								]			1			
								1					Boring was backfilled with cement/	L
35	<u> </u>	<b> </b>	<del> </del>			<b> </b>	_	4					bentonite grout upon completion of	L
	<u> </u>		-	-		┼		1					drilling.	$\vdash$
	<u> </u>	$\vdash$	<del>                                     </del>	$\vdash$	-	$\vdash$	<del>                                     </del>	1					5. OVA readings: No OVA readings	$\vdash$
		<b>t</b>	1	<del>                                     </del>		†	<del>                                     </del>	1		1			observed during drilling.	
40								]					- <u>-</u>	
					ļ	ļ		1						<u>_</u>
		<u> </u>	<u> </u>	<u> </u>	<u></u>	1		<u> </u>	<u> </u>	<u> </u>	l			<u> </u>
Page	<b>)</b> :	1	of	1										

PROJECT No. <u>86-018-1804</u>

BORING No. <u>BD13-15</u>

LOGGED BY <u>BB</u>

PRO	JEC	T NAI	ME:		NAS	Alar	neda	- Pha	ase 2A S	Site In	vestiga	ations		
BOR	ING	LOC	ATION	l:					D13 by				URFACE ELEV. 115.5 feet	
DRIL	LEF	₹:	Spect	trum E							: ST	•	7/10/90 FINISH 7/10/90	_
D E P		SAM	PLE		I	BLOW		REC	USCS SOIL	wc	qu	L D A E Y P	SOIL DESCRIPTION	F
T H	No.	TYPE	INTE FROM		0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	2
	1	CS	1.5	3.0	38	23	14	13	SM			1.5	Asphalt. (Fill)  Medium dense light brown, silty fine sand,	
	2	CS	3.0	4.5	10	6	3	13	SM				moist. (Fill) becomes loose at 3.0 feet.	
5	3	CS	4.5	5.0	6			2	SM			4.5	Concrete debris and silty sand from 4.5 to	L
	5	CS	7.5	9.0	4	2	2	6					becomes saturated at 7.0 feet. color change to black between 10.5 and 11.0 feet.	
10	7	CS CS	10.5 12.0	12.0 13.5	10	12	20	17	SM			11.0	Dense, brown, silty fine to medium sand,	_
	9	CS	13.5	15.0	13	21	25	15 18	SM SM			12.5	saturated, abundant shells. some black discoloration at top of unit. Dense, orange brown, silty fine sand,	F
15												15.0	saturated, trace of clay. (Merritt Sand) Bottom of Boring at 15.0 feet.	
													Notes:	
20													Boring was advanced using 8-inch- diameter hollow stem augers.	
													Groundwater was encountered at     7.0 feet during drilling.	
25													Sampler type:     California Sampler (CS)	
													O.D.: 2.5 inches	
30									:				Boring was backfilled with cement/     bortonite grout upon completion of	_
													bentonite grout upon completion of drilling.	_
35													<ol><li>OVA readings: No OVA readings observed during drilling.</li></ol>	_
40														
Page		1	of	1						<u> </u>				

PROJECT No. 86-018-1804

BORING No. BD13-16 LOGGED BY RMD PROJECT NAME: NAS Alameda - Phase 2A Site Investigations SURFACE ELEV. 115.0 feet **BORING LOCATION:** Southeast corner of Yard D13 DATE: START 7/10/90 **FINISH** 7/10/90 DRILLER: Spectrum Exploration - Garry Buss L D SAMPLE **BLOW** REC **USCS** WC A E SOIL DESCRIPTION Ε qu Y P Ε SOIL Ρ COUNT No. TYPE INTERVAL 0" 6" 12" TYPE (%) (TSF) ET AND REMARKS Z Т (in) 0 FROM TO 6" 12" 18" RH Н Concrete Medium dense to dense, dark to light CS 21 30 14 SM 1.0 1.0 2.5 13 brown, silty fine sand, moist. (Fill) 2 CS 2.5 4.0 9 14 9 15 SM Medium dense mottled gray brown, SM-SC 4.5 CS 4.0 5.5 3 6 4 14 clayey sand, moist, with pockets of clay. CS 1 SC 5.5 7.0 3 2 13 CS SC some wood and organic debris 1 5 8 5 7.0 8.5 1 encountered below 8 feet. CS 8.5 10.0 9 11 4 15 SC 6 thin pocket of dark gray, gravelly silty 10 sand, with shells at 9.5 feet. CS 10.0 11.5 8 15 14 16 SC 11.0 7 SC wood encountered below 8 feet. CS 11.5 13.0 6 13 11 15 8 Medium dense, orange brown, clayey sand, saturated, some silt. CS 14.5 3 10 18 SC 9 13.0 2 (Merritt Sand) 15 14.5 Bottom of Boring at 14.5 feet. Notes: 1. Boring was advanced using 8-inch-20 diameter hollow stem augers. 2. Groundwater was encountered at 6.0 feet during drilling. 25 3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches 30 4. Boring was backfilled with cement/ bentonite grout upon completion of drilling. 5. OVA readings: 35 a) 50 ppm at 8.0 feet. b) 10-30 ppm at 9.5 feet. c) 10 ppm at 11.0 feet. 40

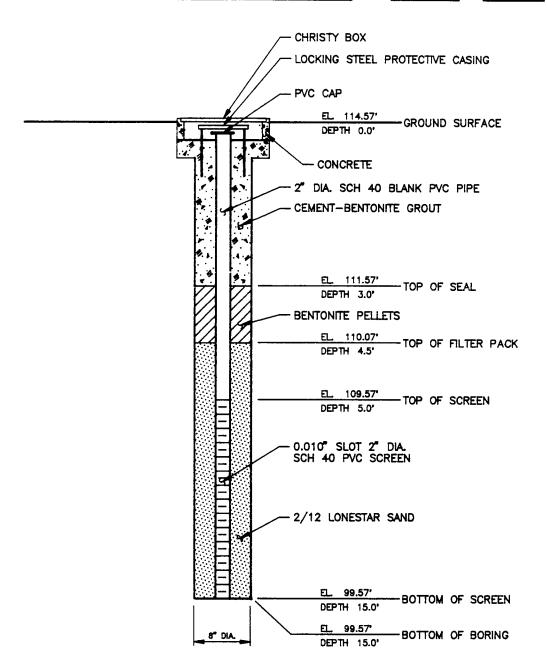
Page:

# Monitoring Well Detail

PROJECT No. 86-018-1804
WELL No. MWD13-1

 PROJECT NAME
 NAS ALAMEDA—PHASE 2A SITE INVESTIGATION

 WELL LOCATION
 YARD D13 BY NORTH GATE
 DATE 7-11-90 BY BB



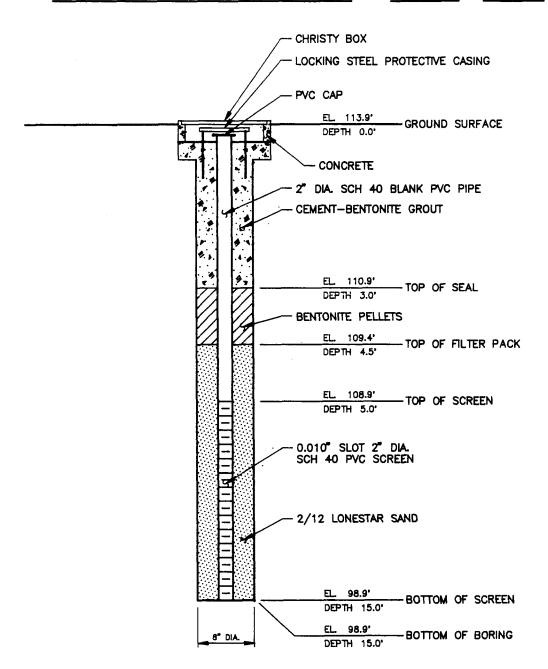
- 1. NOT DRAWN TO SCALE.
- 2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

## Monitoring Well Detail

PROJECT	No.	86-018-1804	
WELL No.	MW	D13-2	

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION YARD D13, WEST OF BUILDING 616 DATE 7-6-90 BY TGB



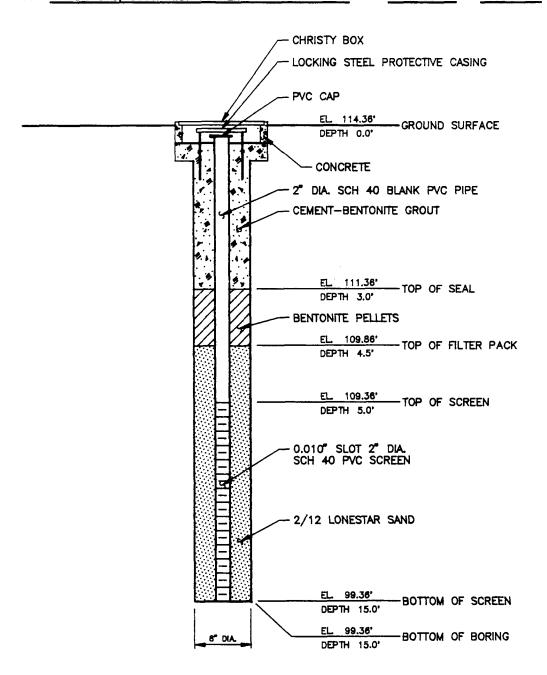
- 1. NOT DRAWN TO SCALE.
- 2. SEE BORING LOG
  - FOR DETAILED SOIL DESCRIPTION.

# Monitoring Well Detail

PROJECT No. 86-018-1804
WELL No. MWD13-3

PROJECT NAME NAS ALAMEDA—PHASE 2A SITE INVESTIGATION

WELL LOCATION YARD D13, SOUTHWEST CORNER DATE 7-6-90 BY TGB



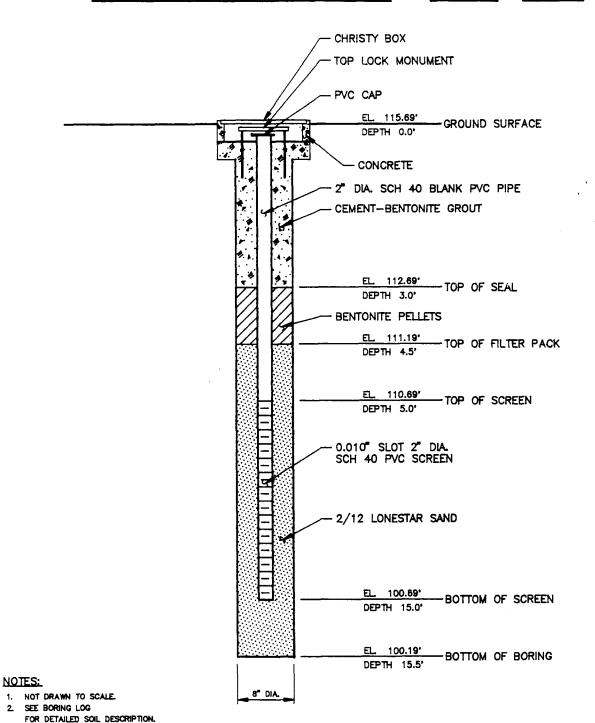
- 1. NOT DRAWN TO SCALE.
- 2. SEE BORING LOG
  - FOR DETAILED SOIL DESCRIPTION.

# Monitoring Well Detail

PROJECT N	lo. 86-0	18-1804
WELL No.	MWD13-4	

 PROJECT NAME
 NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

 WELL LOCATION
 YARD 013 BY SOUTH GATE
 DATE 7-9-90 BY RMD



#### APPENDIX D

BUILDING 410
BORING LOGS AND MONITORING WELL
CONSTRUCTION DETAILS

PROJECT No. 86-018-1804

BORING No. MW410-1

LOGGED BY BB

														_
PRC	JEC	AN T	ME:		NAS	Alar	neda	- Pha	ase 2A S	Site In	vestiga	ations		
BOF	RING	LOC	ATION	<b>l</b> :	Nort	th sid	e of	Buildi	ng 410			S	SURFACE ELEV. 114.75 feet	
DRIL	LEF	₹:	Spec	trum E	Explo	ration	n - G	arry E	Buss	DATE	: ST	ART	7/11/90 FINISH 7/11/90	
D												L D		F
E		SAM	PLE			BLOW	/	REC	USCS	wc	qu	ΑE	SOIL DESCRIPTION	1
P			,			COUN		]	SOIL			ΥP		E
T	No.	TYPE		RVAL	0"	6"	12"	(in)	TYPE	(%)	(TSF)	ET	AND REMARKS	Z
Н			FROM	ТО	6"	12"	18"	<u> </u>				RH	The second secon	10
l	1	cs	0.0	1.5	8	10	9	14	SM			0.3	Asphalt. (Fill)	丄
	<u> </u>			<u> </u>	<u> </u>		<u> </u>						Medium dense, light brown, silty fine	L
	2	CS	1.5	3.0	5	5	6	17	SM				sand, moist.	L
_	3	cs	3.0	4.5	4	4	3	15	SM				becomes loose at 3.0 feet.	-
5	<del>                                     </del>		45	-		-	-	١ ا	014					-
	4	CS	4.5	6.0	2	3	2	14	SM				anti-water district C.O. for the	X
	5	CS	6.0	7.5	2	2	2	14	SM				saturated below 6.0 feet.	X
	6	CC	7.5	9.0	<u> </u>	1		ا ا					color change to gray at 6.5 feet.	×
10	7	CS	9.0	<del></del>	3	3	3	14	SM				1	×
10	⊬	US	9.0	10.5	3	3	2	12	SM				1	×
	8	CS	10.5	12.0	1	1	3	ا ۱٫ ا	CL				Coft dark army allty alay some fine	X
	9	CS	12.0	13.5	3	5	6	12 12	CL			11.0	Soft, dark gray, silty clay, some fine sand, saturated. (Bay Mud)	×
	Ť	- 50	12.0	10.5	٦	-	۳	'-					tiny round shell fragments at 12.5 feet.	Ìх̂
15	10	cs	13.5	15.0	4	6	4	12	SM			13.5	Loose, dark gray, silty fine sand,	Ŧ
	<u> </u>	"	10.0	10.0	广	۲Ť	Ť	1 -	0			15.0	saturated, trace of clay.	∤Ĥ
					1			1					Bottom of Boring at 15.0 feet.	卜
								1					3	r
													Notes:	Г
20								] .						Γ
									,				Boring was advanced using 8-inch-	Г
	L							]					diameter hollow stem augers.	
	<u> </u>												Groundwater was encountered at	
25	L_			<u> </u>				]					6.0 feet during drilling.	L
1														L
								1					3. Sampler type:	L
						ļ							California Sampler (CS)	L
		<u> </u>			<del> </del>	-							O.D.: 2.5 inches	H
30	┝				-	<u> </u>		-					1.D.: 2.0 inches	H
	$\vdash$			<del>                                     </del>	<del> </del>	$\vdash$	<del> </del>	<del> </del>					4. Roring was converted to a manifesting	$\vdash$
	-	-		<del>                                     </del>	1		<del>                                     </del>						4. Boring was converted to a monitoring well upon completion of drilling.	$\vdash$
		<del> </del>	<del>                                     </del>			-	-	1					well upon completion of unling.	$\vdash$
35	$\vdash$	<del>                                     </del>			1			1					5. OVA readings:	⊢
00	<b>-</b>				<del>                                     </del>	<b></b>		1					a) 10 ppm at 12.5 feet.	$\vdash$
	<del>                                     </del>	<del>                                     </del>			╁	$\vdash$	<b>-</b>	1					ay to ppin at 12.5 leet.	$\vdash$
			<del>                                     </del>	<del>                                     </del>	†		_	1						$\vdash$
	$\vdash$				T	<b>†</b>	<del>                                     </del>	1						$\vdash$
40	Т				<u> </u>			1						$\vdash$
				T	t		<del>                                     </del>	1						$\vdash$
				1	T	1		1						$\vdash$
Page		1	of	1		•		•						ــــــ

PROJECT No. 86-018-1804

BORING No. MW410-2 LOGGED BY RMD PROJECT NAME: NAS Alameda - Phase 2A Site Investigations SURFACE ELEV. 115.47 feet **BORING LOCATION:** West side of Building 410 START Spectrum Exploration - Garry Buss DATE: DRILLER: **FINISH** 7/16/90 7/16/90 L D SAMPLE REC USCS WC Ε **BLOW** A E qu SOIL DESCRIPTION ΥP Р COUNT SOIL ε No. TYPE INTERVAL TYPE E T Т 0" 6" 12" (in) (%) (TSF) AND REMARKS z FROM TO 6" 18" RH Н 12" 0 Asphalt concrete (Fill) Medium dense, light brown, silty fine 1 CS 1.0 2.5 6 4 10 16 SM 1.0 CS 5 5 sand, moist, with scattered shell 2 2.5 4.0 6 14 SM fragments. 5 3 CS 4.0 5.5 8 12 21 becomes dense at 5.0 feet. 12 SM X 4 CS 5.5 7.0 15 20 15 15 SM saturated below 7.0 feet. becomes medium dense at 7.0 feet. Х 5 CS 7.0 8.5 5 10 6 16 SM X X X X Loose, brown gray, silty fine sand, CS 7 7 6 8.5 10.0 8 15 SM 8.5 10 saturated, some small shells. 7 CS 10.0 11.5 4 4 6 15 SM 2 4 CS 11.5 13.0 9 8 14 SM 9 CS 13.0 14.5 3 4 5 15 SM Medium dense, dark gray, silty clayey CS 16.0 6 7 10 14.5 5 15 SC 15 14.5 16.0 sand, saturated. Bottom of Boring at 16.0 feet. Notes: 20 1. Boring was advanced using 8-inchdiameter hollow stem augers. Groundwater was encountered at 7.0 feet during drilling. 25 3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches 30 4. Boring was converted to a monitoring well upon completion of drilling. 5. OVA readings: No OVA readings were 35 found during drilling. 40

Page:

of

PROJECT No. 86-018-1804

BORING No. MW410-3

LOGGED BY RMD

200	UEC	T NIAI	ME.		NAC	Alaa		Dh	04 (	NA . I		41000	
_		T NAI							ase 2A S	site in	/estiga		LIDEACE EL EVA AND CO STATE
			ATION						ing 410			•	URFACE ELEV. 113.98 feet
	LEF	l:	Spect	rum E	:xpio	ratior	1 - G	arry E	suss	DATE	: ST		7/12/90 FINISH 7/12/90
D E P		SAM	PLE		ł	BLOW		REC	USCS SOIL	wc	qu	A E Y P	SOIL DESCRIPTION
T H	No.	TYPE	INTE	RVAL TO	0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS
-						<u> </u>				<u> </u>			Apphalt (Eill)
		CS	0.5	2.0	22	20	22	14	SM			0.5	Asphalt. (Fill)  Dense, light brown, silty fine sand,
	2	CS	2.0	3.5	11	18	19	11	SM			0.5	moist.
	H	<u> </u>	2.0	3.5	- 1	10	19	┨ '' ┃	SIVI				moist.
5	3	CS	3.5	5.0	10	18	19	15	SM			4.0	Dense, gray, silty fine sand, moist, with
3	4	CS	5.0	6.5	15	14	17	13	SM			7.0	shell fragments.
	1		3.0	0.3	13	17	<u>''</u>	'	3141				saturated below 5.5 feet.
	5	CS	6.5	8.0	10	14	12	16	SM				becomes medium dense at 6.5 feet.
	6	cs	8.0	9.5	4	6	8	16	SM				lost shell fragments at 8.0 feet.
10			0.0	5.0			<u> </u>	"					, , , , , , , , , , , , , , , , , , ,
	7	CS	9.5	11.0	5	5	4	15	SM				becomes loose at 9.5 feet.
	8	CS	11.0	12.5	1	5	10	15	SM				
								1					
	9	cs	12.5	14.0	1	4	3	16	SM			13.8	Loose, dark gray, silty medium sand,
15	10	cs	14.0	15.5	5	5	7	17	SM				saturated, with small white shells and
										İ		15.5	pockets of clay.
													Bottom of Boring at 15.5 feet.
								]					
					<u> </u>								Notes:
20	<u></u>												
	$oxed{oxed}$					ļ							Boring was advanced using 8-inch
					<u> </u>								diameter hollow stem augers.
	<b> </b>												Groundwater was encountered at
25	<u> </u>				ļ	-	<b></b>	}					5.5 feet during drilling.
								1					2 Complex type:
	-				<del>                                     </del>		-						3. Sampler type:
	$\vdash$				<del>                                     </del>		<del> </del>	-	-				California Sampler (CS) O.D.: 2.5 inches
20	_			<u> </u>	-	<del>                                     </del>	$\vdash$	1					I.D.: 2.0 inches
30	<b>—</b>		1	<del>                                     </del>	<del>                                     </del>		<del> </del>	1					I.D., Z.U IIICHES
	$\vdash$			<del> </del>		<del> </del>		1					4. Boring was converted to a monitoring
	$\vdash$							1					well upon completion of drilling.
			<u> </u>	<del>                                     </del>			<del>                                     </del>	1					apon completion of aliming.
35			$\vdash$	<del>                                     </del>	<del>                                     </del>		<b></b>	1					5. OVA readings: No OVA readings were
	$\vdash$							1					found during drilling.
								1					
					<u> </u>			1					
								1					
40													
								]					
			T		$\Gamma$		Ι	1	1	1	1	I	

PROJECT No. 86-018-1804

BORING No. MW410-4

LOGGED BY RMD

DDC	LIEC	T NA	ME		NAC	: Ala-	node	DF.	200 04 (	Cita I		*!		
			ME: ATION	ı.					ase 2A S					
									) in fend			•	SURFACE ELEV. 114.64 feet	
DRII		١.	Spec	trum E	-xpi0	aliOl	ı - G	arry E	uss	DAIL	: ST/	LD	7/12/90 FINISH 7/12/90	ΙP
E		SAM	PLE			BLOW		REC	USCS SOIL	wc	qu	AEYP	SOIL DESCRIPTION	E
T	No.	TYPE	INTE	RVAL TO	0" 6"	6" 12"	12"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	z
			I	10	-	12	10			L I	l	ВП	Apple (EIII)	무
	1	cs	0.5	2.0	40	45	25	14	SM			0.5	Asphalt. (Fill)  Very dense, brown, gravelly silty sand,	1
	2	CS	2.0	3.5	20	16	14	13	SM			1.5	moist. (Fill)	1—
1		- 33		<u> </u>		"		"	<b>O.U.</b>			1.0	Dense, light brown, silty fine sand, moist,	-
5	3	CS	3.5	5.0	7	6	10	15	SM				with shell fragments.	
	4	CS	5.0	6.5	6	6	7	14	SM				becomes medium dense at 3.5 feet.	×
								]						X
	5	cs	6.5	8.0	6	7	6	15	SM	}			saturated below 6.5 feet.	××××××××××××××××××××××××××××××××××××××
	6	cs	8.0	9.5	6	6	5	15	SM					X
10														X
	7	CS	9.5	11.0	5	6	8	15	SM			•	color change to gray at 11.0 feet.	X
	8	CS	11.0	12.5	8	3	4	15	SM				becomes loose at 11.0 feet.	X
	9	CS	12.5	14.0	3	2	3	15	sc			12.8	Loose, dark gray, clayey sand,	×
15	10	CS	14.0	15.5	2	1	3	14	SC			12.0	saturated, with pockets of silty clay.	X
'	Ĭ	-00	14.0	10.0	-		-	'	00	ļ		15.5	Bottom of Boring at 15.5 feet.	∤Ĥ
										!		,0.0	Dottom of Dorning at 10.0 leet.	H
													Notes:	H
														H
20													Boring was advanced using 8-inch-	П
													diameter hollow stem augers.	
ļ													Groundwater was encountered at	
	Ш												6.5 feet during drilling.	Ш
25						$\vdash$							a Camplantura	Н
						$\vdash$							3. Sampler type:	H
	-												California Sampler (CS) O.D.: 2.5 inches	Н
	$\vdash$												I.D.: 2.0 inches	Н
30	Н												i.b 2.0 inches	Н
													4. Boring was converted to a monitoring	Н
							-						well upon completion of drilling.	H
														H
													5. OVA readings:	П
35													a) 2-5 ppm at 12.5 feet.	
													b) 5-10 ppm at 14.0 feet.	
	Щ													
	Ш													Ш
														Ш
40	$\vdash\vdash$		<u> </u>											$\vdash$
	-		ļ		_									$\vdash\vdash$
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, age	•	'	J1	'										

PROJECT No. 86-018-1804

BORING No. B410-5

LOGGED BY BB

		T NAI							se 2A S				UDEACE ELEV	_
			ATION						f Buildir				URFACE ELEV. 114.9 feet	_
BIL D T	LER	:	Spect	rum E	xpio	ration	1 - G	arry E	suss	DATE	: STA	L D	7/11/90 FINISH 7/11/90	-
E		SAMI	PLE			BLOW		REC	USCS SOIL	wc	qu	A E Y P	SOIL DESCRIPTION	
T H	No.	TYPE	INTE FROM		0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	
	1	CS	0.0	1.5	25	25	20	14	SM			0.3	Asphalt. (Fill)	_
													Dense, light brown, silty fine sand, moist.	
	2	CS	1.5	3.0	16	19	20	15	SM					
	3	CS	3.0	4.5	10	11	13	15	SM				becomes medium dense at 3.0 feet.	
5							<u> </u>			1				
	4	CS	4.5	6.0	10	11	6	15	SM	ŀ			saturated below 6.0 feet.	
	5	CS	6.0	7.5	7	7	5	13	SM				saturated below 6.0 feet.	
	6	CS	7.5	9.0	5	8	9	12	SM				becomes loose at 9.0 feet.	
0	7	CS	9.0	10.5	3	1	4	14	SM		ļ		color change to brown gray and	
		- 00	3.0	10.0	<del>اٽ</del>	<u> </u>	<del>-</del>	1	0				increase in clay content at 9.0 feet.	
	8	CS	10.5	12.0	3	5	7	18	CL			10.5	Medium stiff, black to dark gray,	•
	9	CS	12.0	13.5	3	5	8	6	sc	1		13.0	silty clay, saturated.	_
								]					Loose, dark gray, clayey fine sand,	
15	5	cs	13.5	15.0	3	5	10	12	sc				saturated, some silt.	
			ļ				L		1			15.0	Bottom of Boring at 15.0 feet.	
			<u> </u>	ļ		<u> </u>		4			ļ		Neter	
		<u> </u>		<b></b>	-		<del>                                     </del>	-			1		Notes:	
	_					-	-	-					Boring was advanced using 8-inch-	
20			<u> </u>		-	<del> </del>	-	1					diameter hollow stem augers.	
	-			_	_	╁─	├	1					diameter honow stem augers.	
		<u> </u>	<del> </del>		<del>                                     </del>	<del>                                     </del>	├	1					2. Groundwater was encountered at	
				<del>                                     </del>	<del>                                     </del>	$\vdash$	<del>                                     </del>	1					6.0 feet during drilling.	
25			<del>                                     </del>	<u> </u>		1		1					o o o o o o o o o o o o o o o o o o o	
						$T^-$		1					3. Sampler type:	
								1					California Sampler (CS)	
								]					O.D.: 2.5 inches	
						<u> </u>		_			-		I.D.: 2.0 inches	
30			<del> </del>		<u> </u>	<b> </b>	<u> </u>	1	Ì	1	1			
			<b> </b>		<del>                                     </del>	↓	_	4				ŀ	4. Boring was backfilled with cement/	
	<u></u>			<del> </del>	-	├	₩	-		ļ			bentonite grout upon completion of	
	-			-	├	┼	├	-					drilling.	
35	$\vdash$		+	<del>                                     </del>	+	┼─	┼	1					5. OVA readings: No OVA readings	
აⴢ	-	<del>                                     </del>	+	<del>                                     </del>	1	+	-	1					observed during drilling.	
	-	<del> </del>	$\vdash$		1	+	<del>                                     </del>	1					a societies assume a mining.	
	$\vdash$	<del> </del>	<del>  -</del>	t	1	1	$\vdash$	1						
	<b> </b>	$\vdash$	1			$\dagger$	$\vdash$	1						
40		t	† — <u> </u>	1	1	1		7						
						L		1						
								1		L				

PROJECT No. <u>86-018-1804</u>

BORING No. <u>B410-6</u>

LOGGED BY <u>BB</u>

ER	SAMF TYPE CS CS CS CS CS		: rum E	0° 6° 15	heas	t of E	REC (in)	ase 2A Sing 410 Buss USCS SOIL TYPE		qu (TSF)	s	URFACE ELEV. 114.6 feet 7/11/90 FINISH 7/11/90  SOIL DESCRIPTION  AND REMARKS	P
1 2 3 4 5 6	CS CS CS CS	INTE FROM 0.0 1.5 3.0	RVAL TO 1.5 3.0 4.5	0" 6" 15 15	BLOW COUN' 6" 12" 25	12" 18" 18	REC (in)	USCS SOIL TYPE	wc	qu	L D A E Y P	SOIL DESCRIPTION	E
1 2 3 4 5 5 6	CS CS CS CS	INTE FROM 0.0 1.5 3.0	1.5 3.0 4.5	0" 6" 15	6" 12" 25 20	12" 18" 18	(in)	SOIL TYPE		'	A E Y P		E
1 2 3 4 5 5 6	CS CS CS CS	1.5 3.0 4.5	1.5 3.0 4.5	6" 15 15 10	12" 25 20	18" 18	14		(%)	(TSF)	₽ T	AND DEMARKS	1 7
2 3 4 5	CS CS CS	1.5 3.0 4.5	3.0 4.5	15	20	13		SM	T	1	RH	AIVU NEMANO	d
3 4 5	CS CS	3.0 4.5	4.5	10							0.3	Asphalt. (Fill)	
3 4 5	CS CS	3.0 4.5	4.5	10								Dense, light brown, silty fine sand, moist.	L
4 5 6	CS CS	4.5					14 15	SM SM		1			F
5	CS		6.0	-		17	13	SIM		1		becomes medium dense at 3.0 feet.	۲
6		6.0		8	9	11	15	SM		Ì			
-+			7.5	7	9	7	15	SM				saturated below 6.0 feet.	L
-+						_						h	L
<del>-</del> +	CS CS	7.5 9.0	9.0 10.5	3	2	<u>6</u> 3	13 12	SM SM				becomes loose at 8.0 feet.	H
- 1	US	9.0	10.5	3		3	12	SIVI				'	r
8	CS	10.5	12.0	2	3	2	15	SM	ļ	] .			L
9	CS	12.0	13.5	1	2	4	13	CL	ĺ		12.0		
_					ļ						13.5		L
10	CS	13.5	15.0	6	16	15	6	SM			15.0		┝
+				<del> </del>	╁		1		ł		15.0	Dottom of Boring at 13.0 leet.	H
$\dashv$					t		1		ļ			Notes:	
$\Box$							]						Ĺ
_					<u> </u>								L
$\dashv$					├		1		Ì			diameter nollow stem augers.	H
$\dashv$				-	+-	-	┨		ł			2. Groundwater was encountered at	H
寸		<del> </del>					1						r
							1	ļ				<u> </u>	Ľ
$\dashv$				ļ	ļ		4						L
$\dashv$		<u> </u>	<del></del>		├	-	┨		Į.				H
┪		<del> </del> -		╁╌╴	$\vdash$	-	1						H
_		_		$\vdash$		┢	1						r
												4. Boring was backfilled with cement/	
_							4						L
-		-		-	┼─	<del> </del>	-					arıllıng.	F
$\dashv$		<del>  -</del> -	<del>                                     </del>	-	+-	-	1					5. OVA readings: No OVA readings	H
_			<b>—</b>		1		1				]	observed during drilling.	۲
							]						
									1				Ĺ
		ļ	ļ	├	↓	ļ	-						L
_	-	<del> </del>	<del> </del>	-	╁—	-	-			}			1
	<del> </del>	<del>                                     </del>	<del>                                     </del>	+-	+-	<del>  -</del>	1				1		۲
9	,	CS	CS 12.0  CS 13.5	CS 12.0 13.5 0 CS 13.5 15.0	CS 12.0 13.5 1  CS 13.5 15.0 6	CS 12.0 13.5 1 2 0 CS 13.5 15.0 6 16	CS 12.0 13.5 1 2 4  0 CS 13.5 15.0 6 16 15	CS 12.0 13.5 1 2 4 13 0 CS 13.5 15.0 6 16 15 6	CS 12.0 13.5 1 2 4 13 CL  O CS 13.5 15.0 6 16 15 6 SM	CS 12.0 13.5 1 2 4 13 CL SM	O CS 13.5 15.0 6 16 15 6 SM	12.0 CS 12.0 13.5 1 2 4 13 CL 13.5 15.0 6 16 15 6 SM 15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0	CS 12.0 13.5 1 2 4 13 CL 13.5 15.0 6 16 15 6 SM SM SM SM SM SM SM SM SM SM SM SM SM

PROJECT No. 86-018-1804

BORING No. B410-7

LOGGED BY RMD

PRO	JEC	T NA	ME:		NAS	Alan	neda	- Pha	ase 2A S	Site In	estiga/	tions	-
BOR	ING	LOC	ATION						orner of				URFACE ELEV. 114.9 feet
ORIL	LEF	l:	Spect	rum E	xplo	ratior	1 - G	arry E	Buss	DATE	: ST/	•	7/12/90 FINISH 7/12/90
D E P		SAMI	PLE		1	BLOW COUN		REC	USCS SOIL	wc	qu	L D A E Y P	SOIL DESCRIPTION
T H	No.	TYPE	INTE FROM		0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS
	1	CS	0.5	2.0	41	15	20	12	SM			0.5	Asphalt. (Fill)  Dense, light brown, silty fine sand, moist,
5	3	CS	3.5	5.0	3	10 6	6	14	SM CL			4.3	some gravel. (Fill) becomes medium dense at 2.0 feet. Medium stiff, brown gray, sandy clay,
J	4	CS	5.0	6.5	5	6	7	12	CL			4.5	moist, with pockets of silty sand. saturated below 7.0 feet.
	5 6	CS CS	6.5 8.0	8.0 9.5	1	7	5 3	12 15	CL CL			9.0	becomes loose at 8.0 feet.  Stiff, mottled brown dark gray, silty clay,
10	7	CS CS	9.5 11.0	11.0	1 2	1	4	18 14	CL				saturated, moderate odor. black oily discoloration at 9.5 feet. lenses of clayey sand below 11.0 feet.
	9	CS	12.5	14.0	4	3	4	18	SC			13.8	Medium dense, dark gray, clayey sand,
15	10	CS	14.0	15.5	5	9	13	18	SC			15.0	saturated, with tiny round shells.  Bottom of Boring at 15.5 feet.
													Notes:
20													Boring was advanced using 8-inch- diameter hollow stem augers.
													Groundwater was encountered at     7.0 feet during drilling.
25													Sampler type:     California Sampler (CS)
													O.D.: 2.5 inches I.D.: 2.0 inches
30													Boring was backfilled with cement/ bentonite grout upon completion of
35													drilling.  5. OVA readings: No OVA readings
													observed during driling.
40													
₩													

PROJECT No. <u>86-018-1804</u>

BORING No. <u>B410-8</u>

LOGGED BY <u>BB</u>

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations														
	BORING LOCATION: East side of Building 410 SURFACE ELEV. 115.1 feet													
DRIL	DRILLER: Spectrum Exploration - Garry Buss							arry E	Buss	DATE: START 7/11/90 FINISH 7/11/90				
D E P				BLOW		REC	USCS SOIL	wc	qu	L A E	SOIL DESCRIPTION	P   E		
Т	No.	TYPE	INTE		0" 6"	6" 12"	12"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	z
<u> </u>						<del>                                      </del>				<del></del>			Concrete. (Fill)	뜻
1	1	CS	0.5	2.0	10	15	25	16	SM			0.5	Dense, dark brown, silty fine sand, moist.	
	2	CS	2.0	3.5	20	25	15	16	SM				trace of shell fragments at 2.5 feet.	
	<u> </u>	-						l l						<u> </u>
5	3	CS	3.5 5.0	5.0 6.5	8	5 8	5 10	15 17	SM SM				becomes medium dense at 3.5 feet.	$\vdash$
	<del> </del>	- 03	5.0	0.5	-	l °	10	''	SIMI				thin lens of clay at 6.5 feet.	$\vdash$
İ	5	cs	6.5	8.0	25	15	16	17	SM				saturated below 7.0 feet.	$\vdash$
ł	6	CS	8.0	9.5	50			12	SM	ŀ			color change to gray at 8.5 feet.	
10												9.5	Bottom of Boring at 9.5 feet.	
			ļ											
	_	<b></b>			_		├						(encountered an obstruction at 9.5 feet	
		<b></b> -	<u> </u>										which kicked the auger sideways. relocated 10 feet east and encountered	$\vdash$
15													a similar obstruction at 5.0 feet.	$\vdash$
													relocated in alignment with B410-7 and	$\vdash$
													B410-9; an obstruction was encountered	
]		<u> </u>											at 5.0 feet.)	
						-							Blokas	-
20	┝	<u> </u>											Notes:	-
						-							Boring was advanced using 8-inch-	-
													diameter hollow stem augers.	H
İ													,	
25													Groundwater was encountered at	
	<u> </u>					<u> </u>		1					7.0 feet during drilling.	Н
[	-												3. Sampler type:	$\vdash$
1													California Sampler (CS)	H
30													O.D.: 2.5 inches	Н
													I.D.: 2.0 inches	
		<b></b>				igsqcup								
		<u> </u>			<u> </u>	$\vdash \vdash \vdash$							4. Boring was backfilled with cement/	Н
35	<del> </del>	<del> </del>											bentonite grout upon completion of drilling. In addition, abandoned	H
33	<del> </del>	<b> </b>				$\vdash$							boreholes were also backfilled.	Н
	<b> </b>												Sololiolos Wold also backillos.	H
													5. OVA readings:	Н
													a) 2 ppm at 7.0 feet.	
40		ļ	ļ			<b> </b>								
	<u> </u>		<b>_</b>											Н
		<u> </u>	<u> </u>	L	<u> </u>			LI		<u> </u>				ш

PROJECT No. 86-018-1804

BORING No. B410-9

LOGGED BY RMD

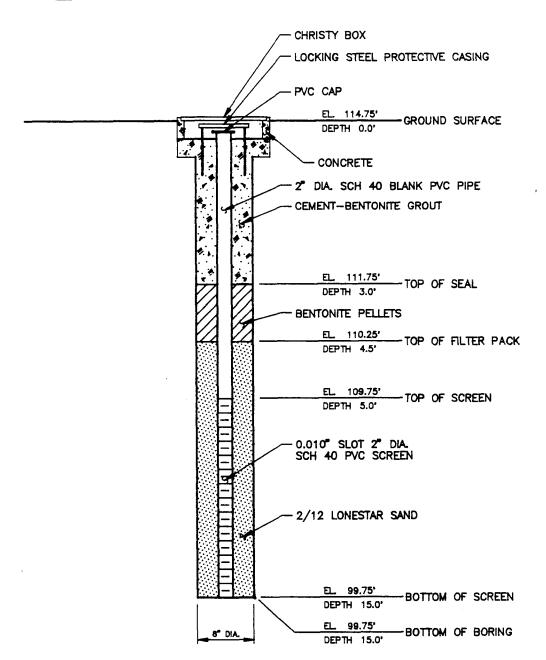
PROJECT NAME: NAS Alameda - Phase 2A Site Investigations														
BORING LOCATION: East of southeast corner of Building 410 SURFACE ELEV. 115.0 feet														
DRIL	LEF	<u> </u>	Spec	trum E	xplo	ration	ո - G	arry E	uss	DATE	: ST	ART	7/12/90 FINISH 7/12/90	
D E P		SAM	PLE		BLOW COUNT			REC	USCS SOIL	wc	qu	L D A E Y P	SOIL DESCRIPTION	1
T H	No.	TYPE	INTE FROM	RVAL TO	0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	Z
													Asphalt. (Fill)	T
	1	CS	0.5	2.0	30	15	10	12	SM			1.0	Dense, light brown, silty fine sand, moist.	L
	2	cs	2.0	3.5	20	25	15	14	SM				trace of shell fragments below 2.5 feet.	$\vdash$
5	3	CS	3.5	5.0	15	14	9	16	SM				medium dense below 4.0 feet.	$\vdash$
	4	CS	5.0	6.5	7	5	8	18	SM				becomes saturated at 4.5 feet.	
					<u> </u>									
	5 6	CS CS	6.5	8.0	2	3	3	15	SM SM				becomes loose at 6.5 feet.	L
10	H	Co	8.0	9.5		3	5	14	2M					-
"	7	CS	9.5	11.0	2	3	4	16	SM	ļ				$\vdash$
	8	CS	11.0	12.5	2	1	4	13	SM				running sands below 11.0 feet.	
15	9	CS	12.5 14.0	14.0 15.5	2	3	5 3	12 18	SM SM			12.5	Loose, gray, silty fine sand, saturated,	L
'5	H	CS	14.0	15.5		3	-	'°	SIVI			15.5	with pockets of silty clay.  Bottom of Boring at 15.5 feet.	$\vdash$
					<u> </u>							,0.0	20110111 01 201111g at 10.0 100t.	H
								]					Notes:	
20	$\vdash$					<b>-</b>							Boring was advanced using 8-inch- diameter hallow stem average.	<u> </u>
					<del> </del>	<u> </u>							diameter hollow stem augers.	-
													2. Groundwater was encountered at	$\vdash$
													4.5 feet during drilling.	Г
25	Щ													
						$\vdash$							3. Sampler type:	L
													California Sampler (CS) O.D.: 2.5 inches	⊢
													I.D.: 2.0 inches	$\vdash$
30														
	Щ												4. Boring was backfilled with cement/	
	$\square$					<b>-</b>	<b>_</b>						bentonite grout upon completion of	L
1	$\vdash \vdash$					$\vdash$							drilling.	-
35	H		_										5. OVA readings: No OVA readings	-
													observed during drilling.	T
													-	
	igsquare													L
40	$\vdash \vdash$					-								$\vdash$
	$\vdash$					H								_
L														
Page	:	1	of	1										

# Monitoring Well Detail

PROJECT	No.	86-018-1804					
WELL No.	М٧	/410—1					

 PROJECT NAME
 NAS ALAMEDA—PHASE 2A SITE INVESTIGATION

 WELL LOCATION
 BUILDING 410, NORTH SIDE
 DATE 7-11-90 BY BB



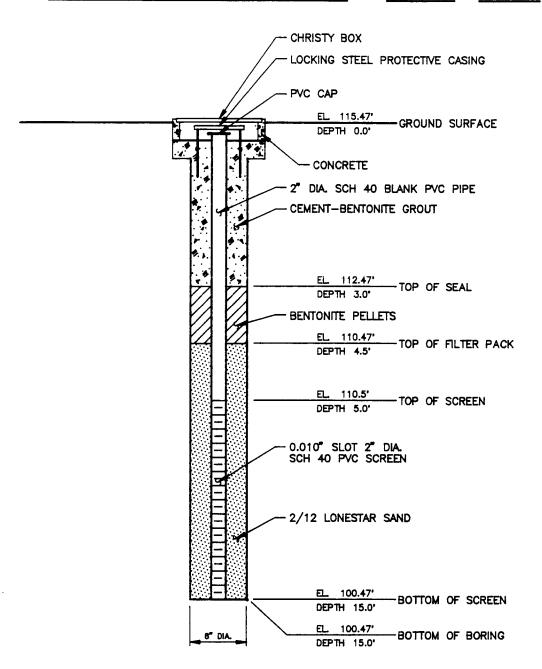
- 1. NOT DRAWN TO SCALE.
- 2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

# Monitoring Well Detail

PROJECT	No.	86-018-1804					
WELL No.	MW	410-2					

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 410, WEST SIDE DATE 7-16-90 BY RMD



#### NOTES:

- 1. NOT DRAWN TO SCALE.
- 2. SEE BORING LOG

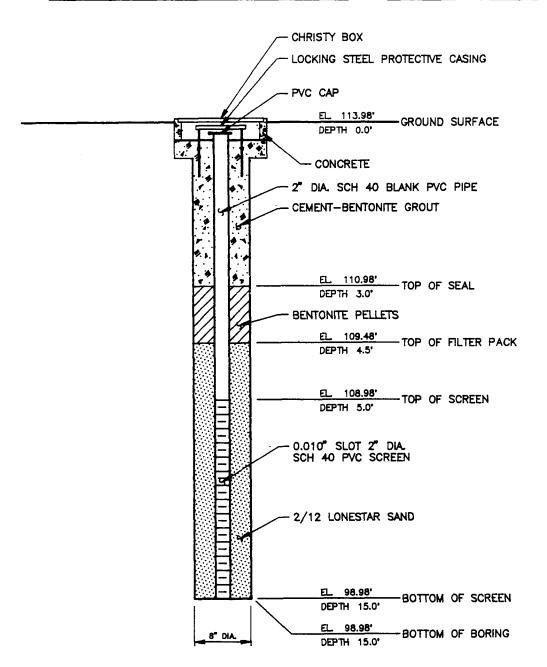
FOR DETAILED SOIL DESCRIPTION.

# Monitoring Well Detail

PROJECT No. 86-018-1804
WELL No. MW410-3

PROJECT NAME NAS ALAMEDA—PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 410, SOUTH SIDE DATE 7-12-90 BY RMD



#### NOTES:

- 1. NOT DRAWN TO SCALE.
- 2. SEE BORING LOG

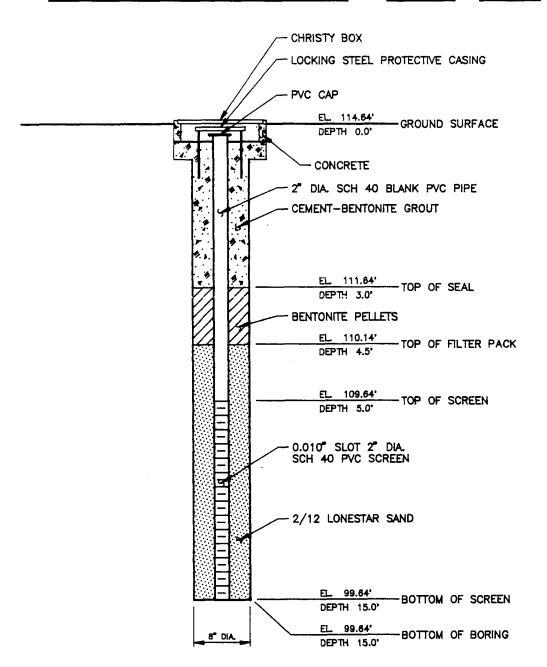
FOR DETAILED SOIL DESCRIPTION.

# Monitoring Well Detail

PROJECT No. 86-018-1804
WELL No. MW410-4

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION EAST OF BUILDING 410 IN FENCED AREA DATE 7-12-90 BY RMD



- 1. NOT DRAWN TO SCALE.
- 2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

#### APPENDIX E

BUILDING 530
BORING LOGS AND MONITORING WELL
CONSTRUCTION DETAILS

PROJECT No. 86-018-1804

BORING No. MW530-1

LOGGED BY RMD

PRC	JEC	T NA	ME:		NAS	Alan	neda	- Ph	ase 2A S	Site In	vestica	ations		
			ATION	l:					ng 530	_			SURFACE ELEV. 114.11 feet	_
DRIL			Spec								E: ST	-	7/13/90 FINISH 7/13/90	
D E P		SAM	PLE			BLOW COUN		REC	USCS SOIL	wc	qu	L D A E Y P	SOIL DESCRIPTION	P
T H	No.	TYPE	INTE		0°	6"	12"	(in)	TYPE	(%)	(TSF)	E T	AND REMARKS	Z
		Ī											Asphalt. (Fill)	Ť
	1	CS	0.5	2.0	16	23	15	13	SM	l		0.5	Dense, mottled light and dark brown, silty	1
	2	CS	2.0	3.5	11	14	16	15	SM				sand, moist, trace of gravel. (Fill)	F
5	3	cs	3.5	5.0	11	15	6	15	SM			4.3	Medium dense, light brown, silty fine sand,	┝
	4	CS	5.0	6.5	3	2	2	14	SM			7.0	moist.	X
												6.8	thin layer of gray clay at 6.25 feet.	ΙŔ
	5	CS	6.5	8.0	5	6	20	17	SP				Medium dense, black to dark brown, silty	X
	6	CS	8.0	9.5	7	3	4	15	SM				gravelly sand, saturated, oily odor.	₹X
10							<u> </u>					8.3	Loose, gray, silty fine sand, saturated,	X
	7	CS	9.5	11.0	4	4	5	16	SM				black streaks, oily odor.	×
	8	CS	11.0	12.5	5	7	12	16	SM				some brick debris at 8.0 feet.	X X X X
	9	cs	12.5	14.0	7	7	5	16	SM				becomes medium dense at 11.5 feet.	뜭
15	10	CS	14.0	15.0	20	50	•	13	SC			14.0	Very dense, light yellow brown, clayey	Î
												15.0	fine sand, saturated.	Ė
														Г
													Bottom of Boring at 15.0 feet.	
20	-				<b></b>	-							Notes:	┝
-0					<b>†</b>	<b></b>	<del>                                     </del>						110.03.	H
										ľ			1. Boring was advanced using 8-inch-	一
													diameter hollow stem augers.	
							ļ						_	
25		<u> </u>	ļ		1		<u> </u>						Groundwater was encountered at	L
	<u> </u>	-			├		<u> </u>						6.5 feet during drilling.	L
		<b></b>					<del> </del>						3. Sampler type:	$\vdash$
		<del>                                     </del>	<del>                                     </del>		<del>                                     </del>	$\vdash$	$\vdash$						California Sampler (CS)	H
30							<b>-</b>						O.D.: 2.5 inches	H
-													I.D.: 2.0 inches	一
													4. Boring was converted to a monitoring	
_	<u> </u>	<u> </u>	<u> </u>		<b> </b>		<u> </u>						well upon completion of drilling.	L
35			<del> </del>		1								5 OVA readings	L
	$\vdash$					<b> </b>	<u> </u>						5. OVA readings:	<u> </u>
	_	<del> </del> -	<del> </del>			$\vdash$							<ul><li>a) 200 ppm at 8.0 feet. Oily odor.</li><li>b) 200-300 ppm at 11.0 feet.</li></ul>	$\vdash$
		<del>                                     </del>	<del>                                     </del>		<del> </del>								Oily odor.	$\vdash$
40													c) 20-30 ppm at 13.0 feet.	Г
													d) 50 ppm at 15.0 feet.	
					<u> </u>					L	L			
Page		1	of	1										

PROJECT No. 86-018-1804

BORING No. MW530-2

LOGGED BY BB

P   T   No.   TYPE     INTERVAL   0"   6"   12"   18"   (in)   TYPE   (%)   (TSF)   E T   R   H	
DRILLER:   Spectrum Exploration - Garry Buss   DATE: START   7/13/90   FIN	.47 feet
D   SAMPLE   BLOW   COUNT   No. TYPE   INTERVAL   0"   6"   12"   18"   (in)   TYPE   (%)   (TSF)   E T   AND	
H   FROM TO 6" 12" 18"	SCRIPTION
Nedium dense, light moist, some shells below	REMARKS
2 CS 1.5 3.0 9 11 15 14 SM 3 CS 3.0 4.5 5 12 13 15 SM 4 CS 4.5 6.0 5 13 14 15 SM 5 CS 6.0 7.5 14 9 10 17 SM 6 CS 7.5 9.0 9 8 10 15 SM 8 CS 10.5 12.0 4 4 7 16 SC 10 CS 13.5 15.0 2 3 4 16 SC 11 CS 13.5 15.0 2 3 4 15 SC 20	
3 CS 3.0 4.5 5 12 13 15 SM 4 CS 4.5 6.0 5 13 14 15 SM 5 CS 6.0 7.5 14 9 10 17 SM 10 7 CS 9.0 10.5 5 4 3 13 SM 9 CS 12.0 13.5 2 2 4 16 SC 15 10 CS 13.5 15.0 2 3 4 15 SC  20	
5	is, trace of graver.
5 CS 6.0 7.5 14 9 10 17 SM 6 CS 7.5 9.0 9 8 10 15 SM 8 CS 10.5 12.0 4 4 7 14 SM 9 CS 12.0 13.5 2 2 4 16 SC 15 10 CS 13.5 15.0 2 3 4 15 SC 20	5.0 feet.
10	
6 CS 7.5 9.0 9 8 10 15 SM  7 CS 9.0 10.5 5 4 3 13 SM  B CS 10.5 12.0 4 4 7 14 SC  9 CS 12.0 13.5 2 2 4 16 SC  15 10 CS 13.5 15.0 2 3 4 15 SC  20	
10	5.0 feet.
B   CS   10.5   12.0   4   4   7   14   SM     9   CS   12.0   13.5   2   2   4   16   SC     15   10   CS   13.5   15.0   2   3   4   15   SC     20	
8 CS 10.5 12.0 4 4 7 14 SM SC 12.5 12.0 13.5 2 2 4 16 SC 15.0 CS 13.5 15.0 2 3 4 15 SC 15.0 2 3 4 15 SC 15.0 2 3 4 15 SC 15.0 Sc 15.0	+ 0 0 foot
9 CS 12.0 13.5 2 2 4 16 SC Loose, gray to da sand, saturated, of clay. abundant gray of unit.  20 Bottom of Boring Notes:  1. Boring was addiameter hollow	it 9.0 feet.
15 10 CS 13.5 15.0 2 3 4 15 SC 15.0   Loose, gray to da sand, saturated, of clay. abundant gray of unit.  20   Bottom of Boring   Notes:  1. Boring was addiameter hollow   2. Groundwater was addiameter	
15 10 CS 13.5 15.0 2 3 4 15 SC 15.0 Sand, saturated, of clay. abundant gray of unit.  20 Bottom of Boring Notes:  1. Boring was addiameter hollow 2. Groundwater was addiameter with the control of the c	k brown, clayey fine
abundant gray of of unit.  Bottom of Boring  Notes:  1. Boring was add diameter hollow  2. Groundwater w	with some pockets
20 Bottom of Boring Notes:  1. Boring was add diameter hollow	1
Bottom of Boring Notes:  1. Boring was add diameter hollow 2. Groundwater w	ay and tiny shells at top
Notes:  1. Boring was add diameter hollow  2. Groundwater was added and the second sec	/\
Notes:  1. Boring was add diameter hollow  2. Groundwater was added and the second sec	t 15 0 foot
1. Boring was addiameter hollow 2. Groundwater w	.t 15.0 leet.
25 diameter hollow 2. Groundwater w	
25 diameter hollow 2. Groundwater w	
2. Groundwater v	anced using 8-inch-
	stem augers.
teet during driit	
	ig.
30 3. Sampler type:	
California Sam	iler (CS)
O.D.: 2.5 inch	
I.D.: 2.0 inche	
	verted to a monitoring
	letion of drilling.
	No OVA roadings was
5. OVA readings:	No OVA readings were
40   Iodika during d	g.
	Ì

PROJECT No. <u>86-018-1804</u>

BORING No. <u>MW530-3</u>

LOGGED BY RMD

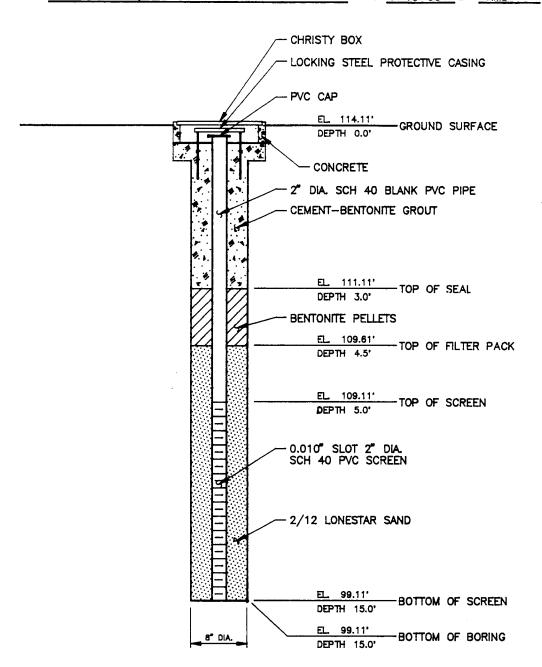
PRO	JEC	T NAI	ME:		NAS	Alan	neda	- Pha	ase 2A S	Site In	vestiga	tions		_
BOR	IING	LOC	MOITA	:	Sout	hwes	st of	Buildi	ng 530	by tar	ıks	S	URFACE ELEV. 112.67 feet	_
_	LER	<u>:</u>	Spect	rum E	xplo	ratior	1 - G	arry E	uss	DATE	: ST		7/13/90 FINISH 7/13/90	
D E		SAMI	PLE		Ĭ.	BLOW		REC	USCS	wc	qu	A E Y P	SOIL DESCRIPTION	
T H	No.	TYPE	INTE FROM		0* 6*	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	
	2	CS CS	1.5	3.0	30	17	20	14	SM			0.8	Asphalt. (Fill)  Dense, light brown to brown, silty fine sand, moist, some shells. (Fill)	-
5	4 5	CS CS	3.0 4.5 6.0	6.0 7.5	7	13	15 14	14 16 16	SM SM SM			4.5	Medium dense, gray, silty fine sand, saturated. some scattered intervals of shells.	<u> </u>
10	6	CS CS	7.5	9.0	10	8	7	15	SM SM				becomes very loose at 9.0 feet.	
	8	CS CS	10.5	12.0	4	6	7	17	SM SM			10.5	Soft, gray, clay, saturated.  Medium dense, gray, silty medium sand, saturated, with small white shells.  Loose, gray, silty fine sand, saturated.	1
15	10	CS	13.5	15.0	5	5	5	0	sc			15.0	(soupy texture)  Bottom of Boring at 15.0 feet.	-
20													Notes:  1. Boring was advanced using 8-inchdiameter hollow stem augers.	
25													Groundwater was encountered at     4.5 feet during drilling.	
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													Boring was converted to a monitoring well upon completion of drilling.	
35								- - -					5. OVA readings: a) 5 ppm at 11.5 feet. b) 20 ppm at 12.0 feet.	
40														
	$\vdash$	+	┼	1-	+	+	+	1						

## Monitoring Well Detail

PROJECT N	lo. 86-01	8-1804
WELL No.	MW530-1	

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 530, NORTHEAST CORNER DATE 7-13-90 BY RMD



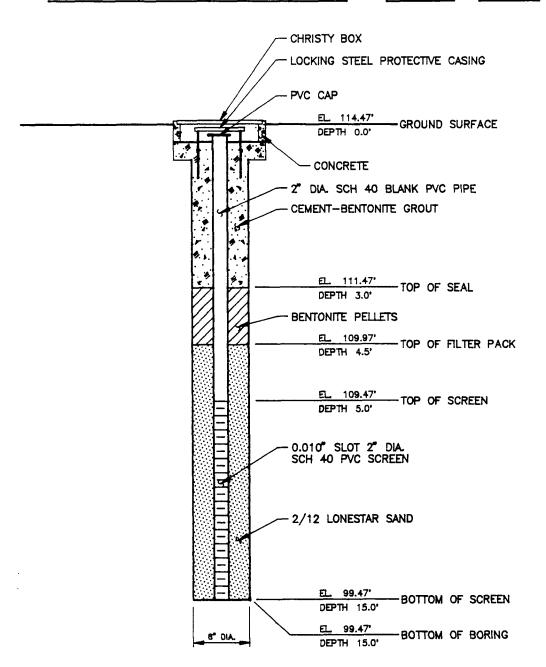
- 1. NOT DRAWN TO SCALE.
- 2. SEE BORING LOG
  - FOR DETAILED SOIL DESCRIPTION.

## Monitoring Well Detail

PROJECT No. 86-018-1804
WELL No. MW530-2

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 530, WEST SIDE, BY SW CORNER DATE 7-13-90 BY BB



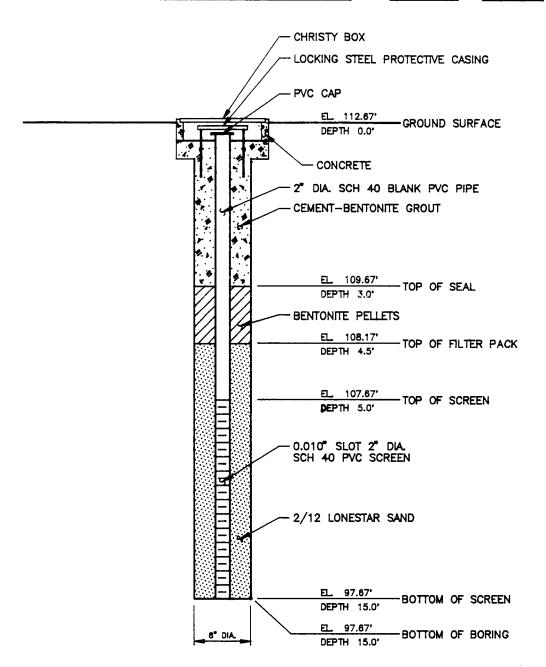
- 1. NOT DRAWN TO SCALE
- 2. SEE BORING LOG
  - FOR DETAILED SOIL DESCRIPTION.

### Monitoring Well Detail

PROJECT No. 86-018-1804
WELL No. MW530-3

 PROJECT NAME
 NAS ALAMEDA—PHASE 2A SITE INVESTIGATION

 WELL LOCATION
 SOUTHWEST OF BUILDING 530 BY TANKS
 DATE 7-13-90 BY RMD



- 1. NOT DRAWN TO SCALE.
- 2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

#### APPENDIX F

OIL REFINERY SITE
BORING LOGS AND MONITORING WELL
CONSTRUCTION DETAILS

PROJECT No. 86-018-1804

BORING No. MWOR-1

LOGGED BY RMD

									_					
PRO	JEC	TNA	ME:		NAS	Alan	neda	- Pha	ase 2A S	Site In	vestiga			
BOR	ING	LOC	MOITA	: .	Nort	heas	t of E	uildir	ng 397			•	URFACE ELEV. 114.41 feet	
DRIL	LER		Spect	rum E	xplo	ratior	<u> </u>	arry E	Buss	DATE	: ST	ART	7/16/90 FINISH 7/16/90	
DEP		SAM	PLE			BLOW		REC	USCS SOIL	wc	qu	L D A E Y P	SOIL DESCRIPTION	P
T H	No.	TYPE	INTER	RVAL TO	0°	6"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	2
	1	cs	0.5	2.0	5	24	16	13	SM			0.5	Asphalt. (Fill)  Dense, brown to light brown, silty fine	<del>【</del>
	2	cs	2.0	3.5	7	16	15	16	SM				sand, moist. (Fill)	F
5	3	cs	3.5	5.0	8	6	4	15	SM SM				increased silt content below 4.0 feet.  Loose, brown, silty fine sand, moist.	   
	4	cs	5.0	6.5	3	4	4	17				5.0	saturated below 6.3 feet.	X
	5 6	CS CS	6.5 8.0	8.0 9.5	3	4	8	16 18	SM SC			8.0	Medium dense, orange brown mottled	×
10	7	CS	9.5	11.0	6	8	16	18	se	SW 1	55		with gray, clayey fine sand, saturated. (Merritt Sand)	<u> </u>
	8	CS	11.0	12.5	2	8	10	15	sc				clay content decreases at 9.5 feet. clay content increase at 11.0 feet.	>
15	9	CS CS	12.5 14.0	14.0 15.5	8	9	16 12	17 14	SC SC					[X
								1				15.5	Bottom of Boring at 15.5 feet.	1
								1					Notes:	F
20													Boring was advanced using 8-inch- diameter hollow stem augers.	
													Groundwater was encountered at     6.3 feet during drilling.	
25													3. Sampler type:	F
													California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	-
30													Boring was converted to a monitoring well upon completion of drilling.	-
						<del> </del>		1					5. OVA readings:	F
35								1					a) 2 ppm at 3.0 feet.	F
					<del> </del>	-		1						F
40					$\vdash$	-		1						F
10						<u> </u>		1						F

PROJECT No. <u>86-018-1804</u>

BORING No. <u>MWOR-2</u>

LOGGED BY BB

PRO	JEC	T NAI	ME:		NAS	Alan	neda	- Pha	ase 2A S	Site In	vestiga	ations	
			ATION						reet and			•	URFACE ELEV. 114.12 feet
	LER	<u>:</u>	Spect	trum E	xplo	ratior	ր - G	arry E	Buss	DATE	: ST/		7/17/90 FINISH 7/17/90
D E P		SAM	PLE		1	BLOW		REC	USCS SOIL	wc	qu	L D A E Y P	SOIL DESCRIPTION
T H	No.	TYPE	INTE FROM		0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS
	1	CS	0.0	1.5	2	5	11	6	GM				Medium dense, brown silty gravel, dry. (Fill)
	2	CS CS	1.5 3.0	3.0 4.5	15 12	15 15	24 20	14 14	GM SM			2.8	Dense, light brown, silty fine sand, moist, with some shells. (Fill)
5													(,
	4	CS	4.5	6.0	6	8	12	14	SM SM				becomes saturated below 6.0 feet.
	5	US	6.0	7.5	5	5	5	14	SM				becomes medium dense at 6.0 feet.
	6	CS	7.5	9.0	5	7	7	14	SM				no shells below 7.5 feet.
10	7	CS	9.0	10.5	3	2	2	12	SM		ŀ		. '
	8	CS	10.5	12.0	2	3	4	17	CL			11.0	Soft to medium stiff, dark gray, silty clay,
	9	CS	12.0	13.5	5	7	8	17	CL				trace of sand, occasional layers of sandy clay, saturated. (Bay Mud)
15	10	CS	13.5	15.0	6	8	12	2	CL				Sandy Clay, Saturated. (Day Mud)
				ļ								15.0	Bottom of Boring at 15.0 feet.
													Notes:
													4 Basin a constant de caracter de la
20													Boring was advanced using 8-inch- diameter hollow stem augers.
						-		1	,				Groundwater was encountered at
													6.0 feet during drilling.
25			<b></b>			$\vdash$	<del>                                     </del>						3. Sampler type:
													California Sampler (CS)
			ļ	<del>                                     </del>			ļ	1					O.D.: 2.5 inches
30								1					
	-	1		-	ļ			┤					Boring was converted to a monitoring well upon completion of drilling.
								1					· · ·
35	$\vdash$							-		i			OVA readings: No OVA readings     observed during drilling.
<b>J</b>	<u> </u>				ļ	<u> </u>		1					observed during drilling.
								]					
		ļ —	<u> </u>	-	-	<u> </u>	-	1					
40								1					
Page		1	of	1									

PROJECT No. <u>86-018-1804</u>

BORING No. <u>MWOR-3</u>

LOGGED BY BB

RO	JEC	T NA	ΛE:		NAS	Alan	neda	- Pha	se 2A S	ite Inv	estiga/	tions		_
OR	ING	LOCA	NOITA	: ,	E sic	te of	11th	St. b	et. Aven		_	•	URFACE ELEV. 114.82 feet	_
_	LER	:	Spect	rum E	xplo	ratior	<u> - Ga</u>	arry E	uss	DATE	: ST		7/17/90 FINISH 7/17/90	7
D E P		SAMI	PLE			BLOW		REC	USCS SOIL	wc	qu	L D A E Y P	SOIL DESCRIPTION	
T H	No.	TYPE	INTE FROM		0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	ETRH	AND REMARKS	
	2	CS CS	1.5	3.0	11	21	33	13 15	SM SM				Dense, light brown, silty fine sand, moist. (Fill)	
5	3	CS	3.0	4.5	10	8	9	15	SM					_
	5	CS CS	6.0	7.5	4	5	8	12	SM SM			5.0	Loose black to dark gray brown, silty fine sand, moist, trace of clay. saturated below 6 feet.	İ
10	6 7	CS CS	7.5 9.0	9.0	6 10	7 10	18	14 16	SM-SC SC			8.0	Medium dense, mottled gray to orange brown, clayey sand, saturated, pockets of gray clay.	
	8	CS CS	10.5	12.0 13.5	7	10	20 13	18	sc sc					
15	10	CS	13.5	15.0	12	14	16	8	SM			14.0	Dense, orange brown, silty sand, saturated, trace of ay. (Merritt Sand)	,
							-	1				15.0	Bottom of Boring at 15.0 feet.	
20													Notes:	
			_				-						Boring was advanced using 8-inch- diameter hollow stem augers.	
25													Groundwater was encountered at 6.0 feet during drilling.	
30													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
35								- - - - -					Boring was converted to a monitoring well upon completion of drilling.	
													OVA readings: No OVA readings observed during drilling.	
40					-	+								
		1	1		1	T	1	1					-	

PROJECT No. 86-018-1804
BORING No. MWOR-4
LOGGED BY RMD

		AN TO		i.					ase 2A S					
			ATION						side of			•	URFACE ELEV. 113.40 feet	
D	LEF	1:	Spect	rum c	xpio	ration	1 - G	arry E	suss	DATE	: ST	T	7/19/90 FINISH 7/19/90	_
E P		SAM	PLE		ŀ	BLOW		REC	USCS	wc	qu	A E Y P	SOIL DESCRIPTION	
T H	No.	TYPE	INTE FROM		0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	
													Asphalt. (Fill)	
	1	cs	0.5	2.0	22	34	13	13	GM			0.3	Red baserock. (Fill)	
	2	CS	2.0	3.5	12	14	14	15	SM			1.8	Medium dense, brown, silty fine sand,	
5	3	CS	3.5	5.0	6	8	6	14	SM				moist. (Fill) saturated below 4.5 feet.	
9	4	CS	5.0	6.5	2	3	4	15	SM				Saturated below 4.5 feet.	
	Н		5.0						<b></b>					
	5	CS	6.5	8.0	6	10	13	16	sc			6.8	Medium dense, mottled gray, orange	
	6	cs	8.0	9.5	6	12	17	17	sc				brown, clayey sand, saturated, with	
0	Ш					<u> </u>							some silt. (Merritt Sand)	
	7	CS	9.5	11.0	8	12	16	16	SC					
	8	CS	11.0	12.5	10	11	13	0	SM			11.0	Medium dense, orange brown, silty sand, saturated. (Merritt Sand)	
	9	CS	12.5	14.0	5	10	15	17	SM				Saturated. (Merritt Sand)	
5	10	CS	14.0	15.0	3	10		12	SM		ļ			
												15.0	Bottom of Boring at 15.0 feet.	_
													· ·	
										]			Notes:	
													4 Darie a constant a destruction of the t	
.0	H												<ol> <li>Boring was advanced using 8-inch- diameter hollow stem augers.</li> </ol>	
													diameter hollow stern augers.	
													2. Groundwater was encountered at	
													4.5 feet during drilling.	
5								ŀ						
													<ol><li>Sampler type:</li></ol>	
													California Sampler (CS)	
	$\vdash$												O.D.: 2.5 inches	
0	$\vdash$				<u> </u>					·			I.D.: 2.0 inches	
•	H												4. Boring was converted to a monitoring	
													well upon completion of drilling.	
													5. OVA readings: No OVA readings	
5	Ш												observed during drilling.	
	$\vdash\vdash$													
	$\vdash\vdash$				<u> </u>									
	$\vdash \vdash$													
ю	H													

PROJECT No. <u>86-018-1804</u>

BORING No. <u>MWOR-5</u>

LOGGED BY <u>BB</u>

		T NA	ME: ATION						se 2A S				URFACE ELEV. 113.83 feet
	LER		Spect	•					f storag Suss		: ST/	•	7/19/90 FINISH 7/19/90
5		SAMI			1	BLOW	'	REC	USCS SOIL	wc	qu	L D A E Y P	SOIL DESCRIPTION
r -	No.	TYPE	INTE		0"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS
	1	CS	0.5	2.0	30	25	20	13	GP			0.5	Asphalt. (Fill)  Dense, dark brown, silty sandy gravel,
	2	CS	2.0	3.5	8	10	10	0	GP				moist, some silt. (Fill)
5	3	CS CS	3.5 5.0	5.0 6.5	15 23	20	23	0	GP GP				(Between 2.5 to 7.0 feet, encountered abundant hard gravel.)
				8.0			3	6	GP				saturated below 6.5 feet. becomes less gravelly below 7.0 feet.
_	5 6	CS CS	6.5 8.0	9.5	3	3	9	12	GP				becomes less gravelly below 7.0 leet.
0	7	CS CS	9.5	11.0	8	10	15 20	18	GP SM			11.0	Dense, dark orange brown, clayey silty fine sand, saturated, some clay.
	9	CS	12.5	14.0	9	15	20	18	SM				(Merritt Sand).
15	10	CS	14.0	15.5	8	15	25	13	SM			15.5	Bottom of Boring at 15.5 feet.
								1					Notes:
20													Boring was advanced using 8-inch- diameter hollow stem augers.
													Groundwater was encountered at 6.5 feet during drilling.
25								- - - -					3. Sampler type: California Sampler (CS) O.D.: 2.5 inches
30													<ul><li>1.D.: 2.0 inches</li><li>4. Boring was converted to a monitoring</li></ul>
					-			1					well upon completion of drilling.
35		-		-									<ol><li>OVA readings: No OVA readings observed during drilling.</li></ol>
								}					
40								1					
	<u> </u>	<del>  -</del>				_	╄-	4					

PROJECT No. <u>86-018-1804</u>

BORING No. <u>BOR-6</u>

LOGGED BY TGB

PRC	JEC	T NA	ME:		NAS	Alar	neda	- Pha	ase 2A S	Site In	vestiga	tions		
			ATION	<b>l</b> :					of Build				URFACE ELEV. 114.7 feet	
DRIL				 trum E							: ST	•		
D E P		SAM				BLOW	,	REC	USCS SOIL	wc	qu	L D A E Y P	7/5/90 FINISH 7/5/90  SOIL DESCRIPTION	P
T H	No.	TYPE	INTE	RVAL TO	0" 6"	6"	12"	(in)	TYPE	(%)	(TSF)	EH	AND REMARKS	Z
		Ī	Ì										Asphalt. (Fill)	Ť
	1	CS CS	0.5 2.0	2.0 3.5	14	21 7	14 5	12 15	SM SM			1.0	Medium dense, light brown, silty fine sand, dry, no odor. (Fill)	F
_ ا			0.5			_			214				dark brown, silty sand layer at 2.5 feet.	
5	3	CS CS	3.5 5.0	5.0 6.5	1	1	1	12 18	SM SM				becomes loose at 3.5 feet.	-
	-	03	5.0	0.5	<b>-</b>	<del>                                     </del>	<del>'</del> -	'°	2M				color change to brown at 3.5 feet.	-
	5	cs	6.5	8.0	1	1	1	15	SM				becomes saturated below 5.0 feet. trace of clay no odor.	-
	6	cs	8.0	9.5	3	4	10	18	CL			8.0	Stiff, orange brown-mottled gray,	╁
10													sandy clay, saturated. (Merritt Sand)	-
	7	CS	9.5	11.0	9	10	11	18	CL			10.5	Dense, orange-brown mottled gray,	1
i	8	cs	11.0	12.5	5	12	12	18	sc				clayey sand, saturated. (Merritt Sand)	
	9	CS	12.5	14.0	5	10	13	18	sc				becomes more silty below 13 feet.	<u> </u>
15	10	CS	14.0	15.0	4	8	13	12	SC					$\vdash$
	ij		14.0	13.0	7	-		'-	30			15.0	Bottom of Boring at 15.0 feet.	+
												15.0	Dottom of Doming at 13.0 leet.	$\vdash$
													Notes:	
												ļ		
20													1. Boring was advanced using 8-inch-	
									;				diameter hollow stem augers.	
								i						
													Groundwater was encountered at	Ц
oe.													5.0 feet during drilling.	Ш
25													2 Compler type:	$\vdash$
													Sampler type:     California Sampler (CS)	Н
													O.D.: 2.5 inches	Н
													I.D.: 2.0 inches	Н
30														Н
													4. Boring was backfilled with cement/	П
									:				bentonite grout upon completion of	П
												ľ	drilling.	
35			ļ								1		5. OVA readings: No OVA readings	Ц
	-											l	observed during drilling.	Ц
									:		ļ	[		Ш
														Щ
40												ļ		Н
70			ļ											
														Н
Page		1	of	1	ــــــــــــــــــــــــــــــــــــــ			L						ш

PROJECT No. <u>86-018-1804</u>

BORING No. <u>BOR-7</u>

LOGGED BY TGB

PRC	JEC	T NA	ME:		NAS	Alan	neda	- Pha	ase 2A S	Site In	vestiga	ations		_
BOF	RING	LOC	AOITA	l:					of Build				URFACE ELEV. 114.4 feet	
DRIL	LEF	₹:	Spec	trum E	xplo	ratio	ո - G	arry E	Buss	DATE	: ST	ART	7/5/90 FINISH 7/5/90	
D E P		SAM	PLE			BLOW		REC	USCS	wc	đп	A E Y P	SOIL DESCRIPTION	P - E
T H	No.	TYPE	INTE	RVAL	0" 6"	6" 12"	12"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	Z
						Ì							Asphalt. (Fill)	力
	1	CS	0.5	2.0	9	11	8	12	SM			0.5	Medium dense, light brown, silty fine sand,	F
	2	CS	2.0	3.5	4	3	2	12	SM				dry. (Fill) color change to brown at 3.0 feet.	L
5	3	CS	3.5	5.0	1	1_	1	12	SM				saturated below 4.5 feet.	
	4	cs	5.0	6.5	1	1	1	18	SM					F
	5	cs	6.5	8.0	1	2	5	18	SM-SC			7.5	Medium dense, orange brown mottled	t
	6	CS	8.0	9.5	3	4	7	18	SC-CL				gray, clayey fine sand, saturated.	
10			L		<u> </u>								(Merritt Sand)	
	7	CS	9.5	11.0	7	9	10	18	CL				sandy clay layer between 9.0 and	L
	8	CS	11.0	12.5	4	7	9	18	CL-SM			100	9.5 feet. color change to brown at 11.0 feet.	╁
	9	CS	12.5	14.0	9	19	20	18	SM			12.0	Medium dense, orange brown, silty sand,	-
15	10	CS	14.0	15.0	4	9	20	12	SM				saturated. (Merritt Sand)	-
	۳	"	1	10.0	† †	Ť		1 '-	J			15.0	Bottom of Boring at 15.0 feet.	+
			1		1	<u> </u>		1					<b>3</b>	┢
								]					Notes:	
20	<u></u>		<u> </u>		<u> </u>	<u> </u>		1				•	Boring was advanced using 8-inch-	
	<u> </u>	<u> </u>	ļ	ļ	ļ	<b></b> -		4					diameter hollow stem augers.	<u> </u>
	<u> </u>		<u> </u>	ļ	<del>}</del>	├	-	-					2 Croundwater was anacuntared at	$\vdash$
l	┝	-	<u> </u>		$\vdash$	<del> </del>	-	1					Groundwater was encountered at     4.5 feet during drilling.	$\vdash$
25	┝				-	<del>                                     </del>	-	1					4.5 leet during drilling.	$\vdash$
23	<u> </u>	<b></b>			<del> </del>	<del> </del>	<del>                                     </del>	1					3. Sampler type:	
					<u> </u>	†		1	ŀ				California Sampler (CS)	$\vdash$
Ì													O.D.: 2.5 inches	
								]					1.D.: 2.0 inches	
30		<u> </u>							•					L
		ļ			ļ	ļ	ļ	4					Boring was backfilled with cement/	_
1	<u></u>	ļ	<u> </u>		├	ļ	ļ	4			İ		bentonite grout upon completion of	-
			-		-	-	-	1					drilling.	-
35	-	₩	<del> </del>	<del> </del>		$\vdash$	-	1					5. OVA readings: No OVA readings	$\vdash$
35		+		<del> </del>	┼	$\vdash$	╁	1			ŀ		observed during drilling.	$\vdash$
	-	$\vdash$	1	†	+	<del>                                     </del>	<del>                                     </del>	1					Societa dailing driming.	$\vdash$
			<b>†</b>	1	1			1						
			<b>T</b>					1						
40								]	[					
								1		1				L
L	<u>L.</u>	<u> </u>	<u> </u>	<u>L</u>		1	<u> </u>	<u></u>	1	L	<u> </u>			上
Page	٠.	1	of	1										

PROJECT No. <u>86-018-1804</u>

BORING No. <u>BOR-8</u>

LOGGED BY <u>RMD</u>

PRO	JEC	T NAI	MF.		NAS	Alan	neda	- Ph	ase 2A S	Site In	/peting	tione	
			VIE: ATION	·					97 by fe		resuge		URFACE ELEV. 114.5 feet
DRIL	-	-	Spect							_	: ST/		7/16/90 FINISH 7/16/90
D E P		SAM				BLOW	,	REC	USCS SOIL	wc	qu	L D A E Y P	SOIL DESCRIPTION
T H	No.	TYPE	INTE FROM		0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS
	2 3	CS CS	0.0 1.5 3.0	3.0 4.5	3 3 5	7 4	9 8 6	15 15 17	SM SM SM				Medium dense, light brown, silty fine sand, moist. (Fill)
5	4 5 6	CS CS	4.5 6.0 7.5	6.0 7.5 9.0	3 3	3	5 3	15 14 15	SM SM			6.8	becomes saturated at 6.0 feet.  Loose, gray, silty fine sand, saturated, some shells.
10	7 8 9	CS CS	9.0 10.5 12.0	10.5 12.0 13.5	3	2 21	3 1 25	17 18 16	CL CL SC			9.3	Soft, dark gray, silty clay, saturated, some iron oxide stains. (Bay Mud)
15	10	CS	13.5	15.0	10	15	20	9	SC			15.0	Dense, mottled gray, orange brown, clayey fine sand, saturated. (Merritt Sand)  Bottom of Boring at 15.0 feet.
20													Notes:  1. Boring was advanced using 8-inchdiameter hollow stem augers.
25													2. Groundwater was encountered at 6.0 feet during drilling.  3. Sampler type:
30													California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches
35													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.  5. OVA readings:
40									:				a) 2-10 ppm at 10.0 feet. b) 20-30 ppm at 11.0 feet. c) 30 ppm at 13.0 feet.
Page	<u> </u> :	1	of	1	<u> </u>	1	<u> </u>	l		<u> </u>	[		1

PROJECT No. 86-018-1804

BORING No. BOR-9

LOGGED BY BB

BORING LOCATION:   Off the southeast corner of Building 397   SURFACE LEV.   114 6 feet	PRO	JEC	T NAI	ME:		NAS	Alan	neda	- Pha	ase 2A S	ite In	estiga	ations		_
D   SAMPLE   BLOW   COUNT   SOIL   SOIL   TYPE   TYPE   SOIL   TYPE   SOIL   TYPE   SOIL   TYPE   SOIL   TYPE	BOR	ING	LOC	ATION	:	Off t	he sc	outhe	ast c	orner of	Build	ing 39	7 S	SURFACE ELEV. 114.6 feet	
E SAMPLE BLOW COUNT TYPE NO. TYPE INTERVAL 0' 6' 12' (in) TYPE (%) (TSF) E T AND REMARKS  2 CS 1.5 1.5 3.0 8 11 1.3 13 SM 3.3 CS 1.5 4 5 13 SC 6.0 7.5 4 3 4 18 SM 5 CS 6.0 7.5 4 3 4 18 SM 5 CS 6.0 7.5 4 3 4 18 SM 5 CS 6.0 7.5 12.0 3 11 14 15 SM 5 CS 6.0 10.5 12.0 3 11 14 15 SM 5 CS 6.0 10.5 12.0 3 11 14 15 SM 5 CS 6.0 10.5 12.0 3 11 14 15 SM 5 CS 6.0 10.5 12.0 3 11 14 15 SM 5 CS 6.0 10.5 12.0		LER	<u>}:</u>	Spect	rum E	xplo	ratior	า - Ga	arry E	Buss	DATE	: ST		7/13/90 FINISH 7/13/90	_
Type	Ε		SAM	PLE		i			REC		wc	qu	ΑE	SOIL DESCRIPTION	1
1	1	No.	TYPE			0"	6"	12"	(in)	ļ.	(%)	(TSF)	ЕТ	AND REMARKS	z
10   2   CS   1.5   3.0   8   11   13   13   SM   SC   3   3   4   5   5   4   5   14   5   5   4   5   14   5   5   4   5   14   5   5   4   5   14   14	Н			FROM	то		-	18"				<u> </u>	RH		읻
3		1	CS	0.0	1.5	7	14	13	14	GM-SM			ļ	dry. (Fill)	
10   10   10   10   10   10   10   10						<del>-</del>	_		•	_			1.0		L
4   CS   4.5   6.0   3   2   4   18   5M   5   CS   6.0   7.5   4   3   4   18   5M   5   CS   6.0   7.5   4   3   4   18   5M   5   CS   7.5   9.0   3.3   3   5   15   5M   5   5M   6   CS   7.5   9.0   10.5   4   8   15   15   5M   6   CS   10.5   12.0   3   11   14   15   5M   9   CS   12.0   13.5   12   17   18   18   5M   5M   5   5   5   5   5   5   5	_	3	CS	3.0	4.5	5	4	5	13	SC				moist. (Fill)	<u> </u>
S   CS   6.0   7.5   4   3   4   18   SM	5		Ce	4.5	60	3	2	_	14	SM			4.5	Medium dense to dense, gray, clavey	┝
Column   C						<u> </u>	-	<del></del>	1	1			-		$\vdash$
10   7   CS   9.0   10.5   4   8   15   15   SM     8   CS   12.0   13.5   12   17   18   18   SM     15   10   CS   13.5   15.0   14   15   15   18   SM     20														1	
Record   10.5   12.0   3   11   14   15   18   18   18   18   19   19   15   10   10   15   15   10   15   15		6	CS	7.5	9.0	3	3	5	15	SM			8.5	/	
S	10	7	cs	9.0	10.5	4	8	15	15	SM			İ		<u> </u>
9 CS   12.0   13.5   12   17   18   18   SM   SM   SM   SM   SM   SM   SM   S															<u> </u>
15   10   CS   13.5   15.0   14   15   15   18   SM		-				<del></del>	_	_	1 -					1	-
15   10   CS   13.5   15.0   14   15   15   18   SM	İ	9	CS	12.0	13.5	'2	- ''	'8	'°	3141					$\vdash$
20 21 22 23 24 25 25 26 27 28 29 29 20 20 20 20 20 20 20 21 22 25 28 29 20 20 20 20 20 20 20 20 20 21 22 25 25 20 20 20 20 20 20 20 20 20 20 20 20 20	15	10	cs	13.5	15.0	14	15	15	18	<b>SM</b>					_
20 21. Boring was advanced using 8-inchdiameter hollow stem augers.  22. Groundwater was encountered at 7.0 feet during drilling.  33. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  44. Boring was backfilled with cement/bentonite grout upon completion of drilling.  45. OVA readings: a) 5 ppm at 4.5 feet. b) 100 ppm at 5.5 feet. c) 100-150 ppm at 7.5 feet. d) 200 ppm at 9.5 feet.									]				15.0		
20 21. Boring was advanced using 8-inchdiameter hollow stem augers.  22. Groundwater was encountered at 7.0 feet during drilling.  33. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  44. Boring was backfilled with cement/bentonite grout upon completion of drilling.  45. OVA readings: a) 5 ppm at 4.5 feet. b) 100 ppm at 5.5 feet. c) 100-150 ppm at 7.5 feet. d) 200 ppm at 9.5 feet.	į								]						
diameter hollow stem augers.  2. Groundwater was encountered at 7.0 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: a) 5 ppm at 4.5 feet. b) 100 ppm at 5.5 feet. c) 100-150 ppm at 7.5 feet. d) 200 ppm at 9.5 feet.							ļ			:				Notes:	L
diameter hollow stem augers.  2. Groundwater was encountered at 7.0 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: a) 5 ppm at 4.5 feet. b) 100 ppm at 5.5 feet. c) 100-150 ppm at 7.5 feet. d) 200 ppm at 9.5 feet.		<u> </u>		1		<del> </del>	ļ	-	-					:1 Paring was advanced using 9 inch	L
2. Groundwater was encountered at 7.0 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: a) 5 ppm at 4.5 feet. b) 100 ppm at 5.5 feet. c) 100-150 ppm at 7.5 feet. d) 200 ppm at 9.5 feet.	20	$\vdash$	<u> </u>		<u> </u>		<u> </u>		1					_	$\vdash$
7.0 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.  5. OVA readings: a) 5 ppm at 4.5 feet. b) 100 ppm at 5.5 feet. c) 100-150 ppm at 7.5 feet. d) 200 ppm at 9.5 feet.				<del>                                     </del>	<u> </u>	<del> </del>	$\vdash$		1					diameter honow stem augers.	
3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.  5. OVA readings: a) 5 ppm at 4.5 feet. b) 100 ppm at 5.5 feet. c) 100-150 ppm at 7.5 feet. d) 200 ppm at 9.5 feet.			<u> </u>						1	1				Groundwater was encountered at	Г
3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.  5. OVA readings: a) 5 ppm at 4.5 feet. b) 100 ppm at 5.5 feet. c) 100-150 ppm at 7.5 feet. d) 200 ppm at 9.5 feet.									1					7.0 feet during drilling.	Г
California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: a) 5 ppm at 4.5 feet. b) 100 ppm at 5.5 feet. c) 100-150 ppm at 7.5 feet. d) 200 ppm at 9.5 feet.	25								]						
O.D.: 2.5 inches 1.D.: 2.0 inches 4. Boring was backfilled with cement/ bentonite grout upon completion of drilling. 5. OVA readings: a) 5 ppm at 4.5 feet. b) 100 ppm at 5.5 feet. c) 100-150 ppm at 7.5 feet. d) 200 ppm at 9.5 feet.	ļ										1			1	L
30  4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: a) 5 ppm at 4.5 feet. b) 100 ppm at 5.5 feet. c) 100-150 ppm at 7.5 feet. d) 200 ppm at 9.5 feet.				ļ	ļ	<u> </u>	<u> </u>	<u> </u>	-					1	L
4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.  5. OVA readings: a) 5 ppm at 4.5 feet. b) 100 ppm at 5.5 feet. c) 100-150 ppm at 7.5 feet. d) 200 ppm at 9.5 feet.		$\vdash$	<b></b>	-	<u> </u>	<b> </b>			4					1	$\vdash$
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: a) 5 ppm at 4.5 feet. b) 100 ppm at 5.5 feet. c) 100-150 ppm at 7.5 feet. d) 200 ppm at 9.5 feet.	30	$\vdash$		<del> </del>	<b></b>	-		_	1					I.D 2.0 Inches	$\vdash$
bentonite grout upon completion of drilling.  5. OVA readings:  a) 5 ppm at 4.5 feet.  b) 100 ppm at 5.5 feet.  c) 100-150 ppm at 7.5 feet.  d) 200 ppm at 9.5 feet.	30	⊢		<del> </del>	<del>                                     </del>	╁	<del>                                     </del>	<b></b>	1				1	4. Boring was backfilled with cement/	H
35	1	$\vdash$				<u> </u>			1					,	
a) 5 ppm at 4.5 feet. b) 100 ppm at 5.5 feet. c) 100-150 ppm at 7.5 feet. d) 200 ppm at 9.5 feet.									]		1			• • • • • • • • • • • • • • • • • • • •	
a) 5 ppm at 4.5 feet. b) 100 ppm at 5.5 feet. c) 100-150 ppm at 7.5 feet. d) 200 ppm at 9.5 feet.									]						
b) 100 ppm at 5.5 feet. c) 100-150 ppm at 7.5 feet. d) 200 ppm at 9.5 feet.	35			ļ			1		1	]				<u> </u>	<u> </u>
c) 100-150 ppm at 7.5 feet. d) 200 ppm at 9.5 feet.			ļ	<u> </u>	<u> </u>		1	<del> </del>	-					1 ' ' '	_
d) 200 ppm at 9.5 feet.		_	ļ	-		-	<del> </del>		1		1			, , ,	$\vdash$
		$\vdash$	<del> </del>	<del> </del>		-		┼	1						-
To	40	$\vdash$	<del>                                     </del>	+			-	-	1					1 ' '	$\vdash$
	***	$\vdash$		<del>                                     </del>			<del>                                     </del>		i					5, 555 pp at 12.5 look	$\vdash$
						<u> </u>	1	1	1						

PROJECT No. 86-018-1804 BOR-10 BORING No. LOGGED BY RMD PROJECT NAME: NAS Alameda - Phase 2A Site Investigations **BORING LOCATION:** South of Bldg. 397, east of Bldg. 169 SURFACE ELEV. 114.7 feet **FINISH** Spectrum Exploration - Garry Buss DATE: START DRILLER: 7/12/90 7/12/90 L D Ε SAMPLE **BLOW** REC USCS WC A E SOIL DESCRIPTION qu P COUNT SOIL Y P Ε No. TYPE INTERVAL 0" 6" TYPE E T z Т 12" (in) (%) (TSF) AND REMARKS FROM TO 6" 12" 18" RH 0 Dense, brown, silty fine sand, moist. (Fill) CS 0.0 1.5 14 18 20 13 SM CS 3.0 8 20 15 14 SM 2 1.5 becomes medium dense below 3.0 feet. 3 CS 3.0 4.5 9 9 10 15 SM 5 becomes saturated at 5.0 feet. 4 CS 7 4.5 6.0 3 10 13 SM CS 4 5 14 SM color change to brown gray at 6.8 feet. 5 6.0 7.5 8 CS SM 8.0 Loose, gray, silty sand, saturated, with 7.5 9.0 2 1 4 14 7 CS 1 1 SM-CL some shells. 10 9.0 10.5 3 18 9.8 Soft to medium stiff, dark gray, silty clay, saturated. (Bay Mud) CS 10.5 12.0 3 6 16 CL 9 CS 12.0 13.5 10 7 20 18 CL-SC 12.3 iron-stained at top of unit, organic matter and soil discoloration at 12.0 feet/ 13.0 Medium dense, dark green gray, clayey 10 CS 13.5 15.0 16 21 25 15 SC 15 sand, saturated, abundant oil stains, 15.0 strong odor. Dense, orange brown clayey sand, saturated. (Merritt Sand) Bottom of Boring at 15.0 feet. 20 Notes: 1. Boring was advanced using 8-inchdiameter hollow stem augers. 25 2. Groundwater was encountered at 5.0 feet during drilling. 3. Sampler type: 30 California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches 35 4. Boring was backfilled with cement/ bentonite grout upon completion of

40

Page:

drilling.

5. OVA readings:

a) 10 ppm at 10.0 feet.b) 10 ppm at 12.0 feet.

PROJECT No. 86-018-1804

BORING No. BOR-11

LOGGED BY BB

		TNA							se 2A S					_
	_		ATION						et and A				URFACE ELEV. 114.4 feet	_
	LER	<u>!:</u>	Spect	rum E	xplo	ratior	1 - G	arry E	Buss	DATE	: ST/		7/18/90 FINISH 7/18/90	Т
D E P		SAM	PLE			BLOW		REC	USCS	wc	qu	L D A E Y P	SOIL DESCRIPTION	
T H	No.	TYPE	INTE FROM		0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	
	1	CS	0.0	1.5	28	21	14	13	SM				Dense, light brown, silty sand, moist, trace of gravel. (Fill)	
	3	CS CS	1.5 3.0	3.0 4.5	9	11 5	12 4	13 15	SM SM					
5	4	CS	4.5	6.0	3	3	4	15	SM					
	5	CS	6.0	7.5	3	3	5	18	SM				saturated below 7.0 feet.	
10	6 7	CS	7.5 9.0	9.0	5	2	2	15 15	SM SM-CL			10.0	color change to gray brown at 8.0 feet. some clay pockets below 9.0 feet.	
-	8	cs	10.5	12.0	3	8	15	18	CL-SM				Very soft, gray silty clay, saturated. (Bay Mud)	
	9	CS	12.0	13.5	3	18	11		SM			12.5	Medium dense, dark gray to brown, silty fine sand, saturated, trace of clay,	•
15	10	CS	13.5	15.0	3	2	11		SM			15.0	some shells.  color change to brown at 14.0 feet.	,
								1					Bottom of Boring at 15.0 feet.	
20	<b></b>												Notes:	
													Boring was advanced using 8-inch- diameter hollow stem augers.	
25													Groundwater was encountered at 7.0 feet during drilling.	
30													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
35													Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
								1					5. OVA readings: a) 2 ppm at 1.5 feet. b) 2 ppm at 10.0 feet.	
40								}						
								1						

PROJECT No. <u>86-018-1804</u>

BORING No. <u>BOR-12</u>

LOGGED BY <u>BB</u>

		T NAI							ase 2A S				
			ATION						530 alc			•	SURFACE ELEV. 114.6 feet
DRIL	LEF	l:	Spect	rum E	xplo	ratior	า - G	arry E	Buss	DATE	: ST		7/18/90 FINISH 7/18/90
D E P		SAM	PLE		l .	BLOW		REC	USCS	wc	qu	A E Y P	SOIL DESCRIPTION
T H	No.	TYPE	INTE FROM	RVAL TO	0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS
	1	CS	0.0	1.5	18	14	14	13	SM			0.3	Asphalt. (Fill)
					<u> </u>								Medium dense, light brown, silty fine sand,
	2	CS	1.5	3.0	8	10	12	12	SM				moist. (Fill)
_	3	CS	3.0	4.5	4	8	10	13	SM				
5	4	CS	4.5	6.0	6	6	7	14	SM ·				some shells at 5.0 feet.
	5	CS	6.0	7.5	4	5	5	15	SM	:			saturated below 6 feet.
	Ť		0.0		<u> </u>	<u> </u>			J				34.4.00 2001 0 1001
	6	CS	7.5	9.0	5	2	3	12	SM				color change to light gray at 8.0 feet.
10	7	CS	9.0	10.5	1	2	2	13	SM-CL	58-10		9.5	
												9.5	1
	8	CS	10.5	12.0	3	4	20	18	CL			10.5	some sand. (Bay Mud)
	9	cs	12.0	13.5	13	23	14	18	SM			12.0	Stiff, dark gray to black, silty clay,
15	10	CS	13.5	15.0	3	20	25	14	SM				saturated. (Bay Mud)  Dense, light orange brown, silty fine sand,
13	10		13.5	15.0		20	23	'-	SIVI	İ		ĺ	saturated, some clay. (Merritt Sand)
												15.0	Bottom of Boring at 15.0 feet.
				:			l	1					
								]					Notes:
20													
					<b> </b>		<u> </u>						Boring was advanced using 8-inch-
					<b> </b>		<del>                                     </del>	ł					diameter hollow stem augers.
	Н							1					Groundwater was encountered at
25	-												6.0 feet during drilling.
								1					
								1					3. Sampler type:
										1			California Sampler (CS)
						<u> </u>	<u> </u>				}		O.D.: 2.5 inches
30	<u> </u>		$\sqcup$		<u> </u>	<b> </b>							I.D.: 2.0 inches
							<del> </del>	ł					4 Paring was basisfilled with someth
	$\vdash$		<del> </del>		<b>-</b>	<del> </del>		1					Boring was backfilled with cement/     bentonite grout upon completion of
								1					drilling.
35								1					
								]					5. OVA readings:
													a) 10 ppm at 1.5 feet.
											[		b) 0 ppm at 3.0 feet.
	<u> </u>				<u> </u>	<u> </u>	ļ						c) 30-40 ppm at 10.5 feet. No odor
40	<u> </u>												noticed.
	$\vdash$					-	<u> </u>	-					
Page	<u> </u>	1	of	1	L	L	1	L	L	<u> </u>	<u> </u>	<u> </u>	L

PROJECT No. 86-018-1804

BORING No. BOR-13

LOGGED BY BB

OR	ING	LOCA	ATION	: '		orne	_	- Pha	Street ar		nue L	S	URFACE ELEV. 114.7 feet
_	LER		Spect								: ST		7/3/90 FINISH 7/3/90
) E		SAMI	PLE			BLOW		REC	USCS SOIL	wc	qu	L D A E Y P	SOIL DESCRIPTION
r ⊣	No.	TYPE	INTE FROM	TO	0* 6*	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS
	1 2	CS CS	1.5	3.0	10 7	11	11	13	SM SP-SM	1		1.5	Medium dense, dark brown, silty sand, dry, occasional rock fragments. (Fill) Medium dense, light brown, fine sand,
5	3	CS	3.0	4.5	3	8	7	15	SP-SM				moist. (Fill)
	5	CS CS	4.5 6.0	7.5	1	2	1	15 15	SP-SM CL			6.5	becomes loose at 5.0 feet. saturated below 5.5 feet. Soft, dark gray, silty sandy clay, some silt,
0	6 7	cs cs	7.5 9.0	9.0 10.5	1 35	1	1	15 6	CL				iron stains at top of unit, saturated. (Bay Mud Dredge Spoils Fill) sampler refusal at 9.5 feet.
	8 9	CS CS	10.5	12.0 13.5	6 9	15 9	17	15 6	CL-SC SC			11.5	Medium dense, mottled gray-orange brown, clayey fine sand, saturated. (Merritt Sand)
5	10	CS	13.5	15.0	8	10	8	18	sc			15.0	color change to brown at 12.5 feet.  Bottom of Boring at 15.0 feet.
				_									Notes:
20								1					Boring was advanced using 8-inch- diameter hollow stem augers.
													Groundwater was encountered at 5.5 feet during drilling.
25													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches
30													4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.
35													OVA readings: No OVA readings observed during drilling.
40								-{ -{ -{					
40					1		+-	1					

PROJECT No. 86-018-1701 BOR-14 (OR-1) BORING No. LOGGED BY Bill Johnston PROJECT NAME: NAS Alameda - Phase 1 Exploratory Borings BORING LOCATION: Near NE Corner of Ave. K and 11th St. SURFACE ELEV. 114.3 feet Beylik Drilling - Alex Bashta DRILLER: DATE: START 5/23/90 **FINISH** 5/23/90 L D SAMPLE Ε **BLOW** REC USCS WC A E qu SOIL DESCRIPTION Ρ COUNT SOIL ΥP Ε No. TYPE INTERVAL Т 6" 12" (in) TYPE (%) (TSF) E T Z AND REMARKS Н FROM TO 6" 12" 18" RH 0 1 CS 0.0 2.0 6 6 9 24 Dense brown silty fine sand, moist 9 7 CS 2.0 4.0 8 9 SP 18 Medium stiff gray clayey silt, moist 11 4.5 CS 4.0 6.0 2 12 SP 1 6.0 Medium dense brown clayey sand, ML CS 6.0 8.0 Ρ saturated, some gray to black mottling 18 SC at top of unit, slight odor. CS Ρ 8.0 10.0 (Merritt Sand) 10 SC 18 CS 5 16.0 12.0 24 CL 7 CS 12.0 14.0 P 24 CL some interbedded sandy clay layers. CS P 15 14.0 16.0 SC 24 Bottom of boring at 16.0 feet. 16.0 Notes: 1. Boring was advanced using 8-inchdiameter hollow stem augers. 2. Ground water was encountered at 6.0 feet during drilling. 3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches 4. Boring was backfilled with cement/ bentonite grout upon completion of drilling. 35 5. OVA readings: No OVA readings observed during drilling. 6. P refers to the sampler being 40 advanced downward by the weight of the drill stem.

PROJECT No. <u>86-018-1804</u>
BORING No. <u>BOR-15</u>
LOGGED BY <u>BB</u>

OR	ING	LOC	ATION	:	Stor	age \	ard	East	of 11th	Street		S	URFACE ELEV. 114.7 feet
RIL	LER	l:	Spect	rum E	xplo	ratior	1 - G	arry E	Buss	DATE	: ST	ART	7/17/90 FINISH 7/17/90
E P		SAM	PLE			BLOW		REC	USCS	wc	qu	L D A E Y P	SOIL DESCRIPTION
T H	No.	TYPE	INTE FROM	RVAL TO	0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS
	1	cs	0.0	1.5	25	25	15	12	SM				Dense, dark brown to brown, silty sand,
			1.5	20		10	16	ا ۱	SM	ţ	,		moist, some gravel. (Fill)
	3	_cs _cs	1.5 3.0	3.0 4.5	10	12	8	12 14	SM SM		وينها ك		
5	3		3.0	7.5	-10	13	-	'	3101	543	} <sup>-</sup>		trace of clay below 3.0 feet.
•	4	CS	4.5	6.0	3	4	5	15	SMF 5	Pisit	1		color change to gray at 5.0 feet.
	5	CS	6.0	7.5	3	3	3	15	SM	,,,			saturated below 5.0 feet.
								1	_	}	1		Medium dense, dark gray brown, silty
	6	CS	7.5	9.0	3	5	9	15	SM			8.0	sand, saturated, trace of clay, strong
0	7	CS	9.0	10.5	4	4	4	15	sc		ļ	10.0	oil petroleum odor. (Fill)
								]					color change to gray at 10.0 feet.
	8	CS	10.5	12.0	7	9	15	18	sc				Loose to medium dense, gray, clayey
	9	CS	12.0	13.5	13	18	20	18	sc			12.0	sand, saturated, strong petroleum odor
					<u> </u>								Very dense, mottled gray dark orange
5	10	CS	13.5	15.0	15	20	30	18	sc	}		4= 0	brown, clayey fine sand, saturated,
	<b> </b>		<u> </u>					┨				15.0	some silt, strong odor and discoloration (Merritt Sand)
			├──			-	├	┥	ļ				Bottom of Boring at 15.0 feet.
	$\vdash$					<del> </del>	├-	1					bottom or borning at 10.0 feet.
20								1					Notes:
						<u> </u>		1					1.10.00
						†		1		•			Boring was advanced using 8-inch-
								1					diameter hollow stem augers.
								1	]	1			
25								1	<b>.</b>	1		l	2. Groundwater was encountered at
								]					5.0 feet during drilling.
								]			•		
						<u> </u>		1					3. Sampler type:
	$\vdash$		<b> </b>			<del> </del>	<u> </u>	-					California Sampler (CS)
30	<u> </u>		<del>  -</del>	<del> </del>	-	<b>├</b>		-	1				O.D.: 2.5 inches
	<u> </u>	<del>                                     </del>				├─		4					I.D.: 2.0 inches
	-	-	┼	<del>                                     </del>	<del> </del>	├		-	ļ	ļ			Boring was backfilled with cement/
	-		┼	<del> </del> -	├─	<del> </del>	├-	-				1	bentonite grout upon completion of
35	$\vdash$	-	<del> </del>	-	<del> </del>	$\vdash$	-	┨					drilling.
ပဒ	-	-	+	+	<del>                                     </del>	1	-	1			]		Grining.
	$\vdash$	<del> </del>	<del> </del>	<del> </del>	<del> </del>	t	<del>                                     </del>	1					5. OVA readings:
	$\vdash$	1		<del>                                     </del>	<del>                                     </del>	<del>                                     </del>	<del>                                     </del>	1	1		1		a) 20 ppm at 7.5 feet.
	$\vdash$	-	+-	<del> </del>	<u> </u>	<u> </u>	<del>                                     </del>	1					b) 100 ppm at 9.0 feet.
40		<del>                                     </del>	t	<del>                                     </del>	$t^-$	†	t	1	ļ				c) 10 ppm at 12.0 feet.
•				1	1		<del>                                     </del>	1	}				,
			1		1	1	<del>                                     </del>	1	1	1	1	I	Í

PROJECT	No.	86-018-1804
BORING I	No.	BOR-16
LOGGED	BY	BB

PRO	JEC	T NAI	ME:	<del></del>	NAS	Alan	neda	- Pha	ase 2A S	ite In	vestiga	ations		
			ATION	:					nd Paci				URFACE ELEV. 113.3 feet	
	LER	<u>:</u>	Spect	rum E	xplo	ratior	1 - G	arry E	Buss	DATE	: ST	$\overline{}$	7/23/90 FINISH 7/23/90	_
D E P		SAM	PLE			BLOW		REC	USCS SOIL	wc	qu	L D A E Y P	SOIL DESCRIPTION	
T H	No.	TYPE	INTE FROM	RVAL TO	0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	
	1	cs	0.0	1.5	12	12	16	12	ML				Medium dense, dark brown, sandy silt, dry, some roots. (Fill)	
	2	CS	1.5	3.0	7	13	8	12	ML-SM			2.5	Medium dense, black to dark brown,	`
	3	ÇS	3.0	4.5	1	1	2	15	SM				silty fine sand, no odor, moist. (Fill)	
5								]					saturated below 4.0 feet.	
	4	cs	4.5	6.0	2	2	2	15	SM		1	5.0	Loose, brown, silty fine sand, saturated.	
	5	cs	6.0	7.5	3	3	4_	18	SM				(Merritt Sand)	
	6	CS	7.5	9.0	5	15	10	15	CL-SC			8.0	Stiff, mottled gray, orange brown, sandy	
10	7	cs	9.0	10.5	7	10	11	14	SC GDE	p <sup>ić</sup>		9.0	clay, saturated. (Merritt Sand)  Medium dense, mottled gray, orange	•
	8	cs	10.5	12.0	4	7	9	18	SC		İ	3.0	brown, clayey fine sand, saturated.	
	9	CS	12.0	13.5	5	12	13	15	sc	ĺ	ļ	ļ	(Merritt Sand)	
								]	i	}			with interbedded silty sand below 12.0	
15	10	cs	13.5	15.0	4	10	21	18	sc				feet.	
	ļ		<del> </del>		<del> </del>	├		}	]			15.0	Bottom of Boring at 15.0 feet.	
	$\vdash$		<del> </del>			-	-						Notes:	
						1		1			1			
20													Boring was advanced using 8-inch-	
								]					diameter hollow stem augers.	
	_		<del>                                     </del>	-		├─		1			l		Groundwater was encountered at	
	-		<b></b>	-			-	1	]		]		4.0 feet during drilling.	
25								1			ļ	1		
								]				1	3. Sampler type:	
					<u> </u>			1					California Sampler (CS)	
	<u> </u>	<u> </u>	<b></b>		ļ	<b> </b>	<u> </u>	4				1	O.D.: 2.5 inches	
	┝	<u> </u>	<del> </del>		<del> </del>	<b>├</b> ─	├	4					I.D.: 2.0 inches	
30	$\vdash$	-	<del>  -</del>	-	+	├	-	┨		1		ļ.	4. Boring was backfilled with cement/	
	$\vdash$				<del> </del>	+-	$\vdash$	1					bentonite grout upon completion of	
								1					drilling.	
35	<u></u>			↓	1_	↓	ـــ	4					5. OVA readings: No OVA readings	
	-	<del> </del>	-	<del> </del>	-	-	<del> </del>	-		-			observed during drilling.	
	_		+	<u> </u>	┼─	+-	├-	┨						
	-	<del>                                     </del>		<del>                                     </del>	1	$\vdash$	$\vdash$	1						
40								1						
								]		1		1		
									<u> </u>		<u></u>	<u> </u>		_

PROJECT No. 86-018-1804

BORING No. BOR-17

LOGGED BY BB

PROJECT NAME:   NAS Alameda - Phase 2A Site Investigations   DRILLER:   Spectrum Exploration - Garry Buss   DATE:   SAMPLE   Spectrum Exploration - Garry Buss   DATE:   SAMPLE   Spectrum   Sport   Solid Description   T/17/90   FINISH   T/17/90   FINISH   T/17/90   T/17/90   FINISH   T/17/90															
DRING LOCATION:   NE comer of 11th Street and Avenue L   SURFACE ELEV.   114.8 feet   T/17/90   FINISH   T	PR	OJE	CT NA	ME:		NAS	Alan	neda	- Pha	se 2A S	Site Inv	estiga	tions		
SAMPLE														URFACE ELEV. 114.8 feet	
SAMPLE	DR	ILLE	R:	Spect	rum E	xplo	ration	1 - Ga	arry E	Buss	DATE	: STA	ART	7/17/90 FINISH 7/17/90	
The   No.   TYPE   INTERVAL   0"   6"   12"   18"   18"   12"   18"	E		SAM	PLE					REC		wc	qu	ΑE	SOIL DESCRIPTION	P - E
2 CS   1.5   3.0   10   7   8   12   SM     3 CS   3.0   4.5   5   6   5   5   14   SM     5 CS   6.0   7.5   3   3   4   15   SM     6 CS   7.5   9.0   6   7   10   18   SM     7 CS   9.0   10.5   10   10   17   15   SM     8 CS   10.5   12.0   10   12   16   16   SM     9 CS   12.0   13.5   10   13   15   18   SM     10 CS   13.5   15.0   10   13   15   18   SM     20                                     20	Т	No	. TYPE			0"	6"	12"	(in)		(%)	(TSF)	ΕT	AND REMARKS	z o
2   CS   1.5   3.0   10   7   8   12   SM   SM   S   S   SM   S   SM   S   S		1	CS	0.0	1.5	20	15	10	12	SM					
S		2	CS	1.5	3.0	10	7	8	12	SM			2.5		十
4		_			_		6	5	14	SM	ŀ				
S	5										ľ	ļ		black oily discoloration and strong odor	
8 CS 7.5 9.0 6 7 10 18 SM SM SM SSM SSM SSM SSM SSM SSM SSM S		-	-	<del></del>	_				1				5.0		1
10	ł	5	cs	6.0	7.5	3	3	4	15	SM	ļ	ļ			$\vdash$
10   7   CS   9.0   10.5   10   10   17   15   SM     8   CS   10.5   12.0   10   12   16   16   SM     9   CS   12.0   13.5   10   15   15   15   16   SM     15   10   CS   13.5   15.0   10   13   15   18   SM     20		-	CS	7.5	90	6	7	10	18	SM					-
some clay of 7.5 feet. trace of clay at 9.5 feet. increased clay at 10.0 feet. increased clay at 10.0 feet. increased clay at 9.5 feet. increased clay at 10.0 feet. increased clay at 10.0 feet. increased clay at 10.0 feet. increased clay at 10.0 feet. increased clay at 10.0 feet. increased clay at 10.0 feet. increased clay at 10.0 feet. increased clay at 10.0 feet. increased clay at 10.0 feet. increased clay at 10.0 feet. increased clay at 10.0 feet. increased clay at 10.0 feet. increased clay at 10.0 feet. increased clay at 10.0 feet. increased clay at 10.0 feet. increased clay at 10.0 feet. increased clay at 10.0 feet.	10	$\vdash$		<del></del>		<del></del>			4						
9 CS   12.0   13.5   10   15   15   16   SM     10 CS   13.5   15.0   10   13   15   18   SM     20		-							1						
15   10   CS   13.5   15.0   10   13   15   18   SM     20		8		10.5	12.0	10	12		16	SM					
15   10   CS   13.5   15.0   10   13   15   18   SM     20	1	9	cs	12.0	13.5	10	15	15	16	SM					-
15.0 Bottom of Boring at 15.0 feet.  Notes:  1. Boring was advanced using 8-inch-diameter hollow stem augers.  2. Groundwater was encountered at 6.0 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: a) 20 to 40 ppm at 2.5 feet. b) 80 to 100 ppm at 7.5 feet. c) 200 to 300 ppm at 10.5 feet.	۱.,	-	-	12.5	15.0	10	12	15	1.0	CM				1 0 . 0	$\vdash$
Notes:  1. Boring was advanced using 8-inch-diameter hollow stem augers.  2. Groundwater was encountered at 6.0 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: a) 20 to 40 ppm at 2.5 feet. b) 80 to 100 ppm at 7.5 feet. c) 200 to 300 ppm at 10.5 feet.	12	, <del>  "</del>	1 63	13.5	15.0	10	13	15	'°	Sivi			15.0		十
1. Boring was advanced using 8-inch-diameter hollow stem augers.  2. Groundwater was encountered at 6.0 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: a) 20 to 40 ppm at 2.5 feet. b) 80 to 100 ppm at 7.5 feet. c) 200 to 300 ppm at 10.5 feet.			1	<del> </del>					1	İ					
diameter hollow stem augers.  2. Groundwater was encountered at 6.0 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: a) 20 to 40 ppm at 2.5 feet. b) 80 to 100 ppm at 7.5 feet. c) 200 to 300 ppm at 10.5 feet.									1	1		1		Notes:	
diameter hollow stem augers.  2. Groundwater was encountered at 6.0 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: a) 20 to 40 ppm at 2.5 feet. b) 80 to 100 ppm at 7.5 feet. c) 200 to 300 ppm at 10.5 feet.								<u> </u>							-
2. Groundwater was encountered at 6.0 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: a) 20 to 40 ppm at 2.5 feet. b) 80 to 100 ppm at 7.5 feet. c) 200 to 300 ppm at 10.5 feet.	20	·	<del>                                     </del>	<del> </del>	-	-	<b> </b>	<u> </u>	1			}			-
6.0 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: a) 20 to 40 ppm at 2.5 feet. b) 80 to 100 ppm at 7.5 feet. c) 200 to 300 ppm at 10.5 feet.		$\vdash$	+	<del> </del>		-	<del> </del>		1			İ		diameter hollow stem adgers.	-
3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: a) 20 to 40 ppm at 2.5 feet. b) 80 to 100 ppm at 7.5 feet. c) 200 to 300 ppm at 10.5 feet.		$\vdash$	+	+	<del>                                     </del>	<del>                                     </del>	<del>                                     </del>	-	1					2. Groundwater was encountered at	
3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.  5. OVA readings: a) 20 to 40 ppm at 2.5 feet. b) 80 to 100 ppm at 7.5 feet. c) 200 to 300 ppm at 10.5 feet.			1		<b>-</b>				1					6.0 feet during drilling.	
California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/ bentonite grout upon completion of drilling.  5. OVA readings: a) 20 to 40 ppm at 2.5 feet. b) 80 to 100 ppm at 7.5 feet. c) 200 to 300 ppm at 10.5 feet.	25	5 🗀							]	ļ					$\perp$
O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: a) 20 to 40 ppm at 2.5 feet. b) 80 to 100 ppm at 7.5 feet. c) 200 to 300 ppm at 10.5 feet.					ļ <u>.</u>	<u> </u>	ļ		1					, ,,	$\vdash$
30 4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: a) 20 to 40 ppm at 2.5 feet. b) 80 to 100 ppm at 7.5 feet. c) 200 to 300 ppm at 10.5 feet.	1	_	<del> </del>	ļ	ļ	<del> </del>	<b>├</b> ─	<del>  -</del>	Į		ļ				$\vdash$
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: a) 20 to 40 ppm at 2.5 feet. b) 80 to 100 ppm at 7.5 feet. c) 200 to 300 ppm at 10.5 feet.		-		<del> </del>	┼		-	├	1					1	$\vdash$
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: a) 20 to 40 ppm at 2.5 feet. b) 80 to 100 ppm at 7.5 feet. c) 200 to 300 ppm at 10.5 feet.	34	, <del> </del>		+	<del>                                     </del>	<del>                                     </del>	1	+-	1						
drilling.  5. OVA readings: a) 20 to 40 ppm at 2.5 feet. b) 80 to 100 ppm at 7.5 feet. c) 200 to 300 ppm at 10.5 feet.	٦	<u> </u>		1	T				1					4. Boring was backfilled with cement/	
5. OVA readings: a) 20 to 40 ppm at 2.5 feet. b) 80 to 100 ppm at 7.5 feet. c) 200 to 300 ppm at 10.5 feet.														1	
a) 20 to 40 ppm at 2.5 feet. b) 80 to 100 ppm at 7.5 feet. c) 200 to 300 ppm at 10.5 feet.					1		-	<u> </u>	1					drilling.	-
a) 20 to 40 ppm at 2.5 feet. b) 80 to 100 ppm at 7.5 feet. c) 200 to 300 ppm at 10.5 feet.	_	<u>.</u>		<del> </del>	<del> </del>	-	╁—	-	-					5 OVA readings:	$\vdash$
b) 80 to 100 ppm at 7.5 feet. c) 200 to 300 ppm at 10.5 feet.	3	°	+-	-	-	+	+-	-	1						-
c) 200 to 300 ppm at 10.5 feet.		$\vdash$	<del> </del>	+		1	†	<del>                                     </del>	1						
40	-								]					1 ' '	
40															L
	4	۰ <b> </b>		<del>  _</del>	<del> </del>	-	1	<u> </u>	4		1	1	1		$\vdash$
		-	+-	+	-	+-	+	-	1			1			$\vdash$
Page: 1 of 1	L Pa			of	1		Ц	Ц_	1	1		1	<u> </u>		

PROJECT No. <u>86-018-1804</u>

BORING No. <u>BOR-18</u>

LOGGED BY <u>RMD</u>

		T NA							ase 2A S	Site In	vestiga		UPEACE ELEV	
_	LER		ATION Spect						al Ave.	DATE	: ST	•	URFACE ELEV. <u>113.6 feet</u> 7/23/90 FINISH 7/23/90	
D E P		SAM		iidiii L		BLOW	,	REC	USCS	wc	qu	L D A E Y P	SOIL DESCRIPTION	
T H	No.	TYPE	INTE FROM		0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	
	2 3	CS CS	1.5	3.0 4.5	6 2	10 5 1	12 6 1	16 16 16	SC SC SM			0.3 3.0	Asphalt. (Fill)  Medium dense, mottled black dark gray, clayey fine sand, moist, some silt. (Fill)  Very loose, gray, silty fine sand, wet.	1
5	4 5	CS	4.5	6.0	1 4	1 3	2	14	SM SM			5.0	saturated below 3.5 feet.  Loose, gray brown, silty fine sand, saturated, trace of gravel. (Fill)	
10	6 7	CS CS	7.5	9.0	2 11	6 10	14	18	SC SC SC	ا ماري ماري		7.5	Medium dense, mottled gray orange brown, clayey fine sand, saturated. (Merritt Sand)	
15	9 10	CS CS	10.5 12.0 13.5	12.0 13.5 15.0	4 16 6	15 15 8	18 12 11	18 18 15	sc sc sc				decreased clay content, increased silt content, becomes soupy at 13.5 feet.	
20												15.0	Notes:  1. Boring was advanced using 8-inch-diameter hollow stem augers.	
25													Groundwater was encountered at 3.5 feet during drilling.	
													<ol> <li>Sampler type:         California Sampler (CS)         O.D.: 2.5 inches         I.D.: 2.0 inches     </li> </ol>	
30													<ol> <li>Boring was backfilled with cement/ bentonite grout upon completion of drilling.</li> </ol>	
35													<ul><li>5. OVA readings:</li><li>a) 2 to 5 ppm at 1.0 feet.</li><li>b) 2 to 4 ppm at 2.5 feet.</li></ul>	
40														

PROJECT No. 86-018-1804

BORING No. BOR-19

LOGGED BY BB

		TNA							ase 2A S					
_	ING LER		ATION						Street a			•	URFACE ELEV. 113.9 feet	
	LEN	SAMI	Spect	rum E		BLOW		REC	USCS	WC	: STA	L D A E	7/18/90 FINISH 7/18/90  SOIL DESCRIPTION	
5	No.	TYPE	INTE	RVAI	1	COUN		(in)	SOIL	(%)	(TSF)	YPET	AND REMARKS	
+		,	FROM	TO	6"	12"	18"	("")	1111	(%)	(131)	· н	AND REMARKS	
	1	CS	0.0	1.5	41	25	27	12	SM				Very dense, light brown, silty fine sand, moist, slight odor. (Fill)	
	2	CS CS	1.5 3.0	3.0 4.5	8	12 10	17 11	13 15	SM SM				color change to gray at 3.5 feet.	
5			0.0	7.5	Ľ	-10	'''	] "	0.01					
	4 5	CS CS	4.5 6.0	6.0 7.5	7	7	15 23	13 14	SC SC			5.0 6.5	Medium dense, mottled orange green, clayey fine sand, moist, strong odor.	
													(Merritt Sand)	
0	6 7	CS	7.5 9.0	9.0	17	21 15	25 15	15 15	SC SC				Dense, mottled orange gray green, clayey sand, moist.	
	8	CS	10.5	12.0	10	11	15	15	SC-SM			11.0	Medium dense, gray green, silty fine sand,	
	9	CS	12.0	13.5	10	10	10	15	SM				saturated, some clay. change to trace of clay at 13.5 feet.	
5	10	CS	13.5	15.0	8	12	9	15	SM			15.0	Bottom of Boring at 15.0 feet.	
												13.0	bottom of boning at 13.0 feet.	
					_								Notes:	
20													Boring was advanced using 8-inch- diameter hollow stem augers.	
													Groundwater was encountered at 11.0 feet during drilling.	
25						 							3. Sampler type:	
													California Sampler (CS)	
								1					O.D.: 2.5 inches I.D.: 2.0 inches	
30				_				1					Boring was backfilled with cement/	
					ļ	<del> </del>		1					bentonite grout upon completion of drilling.	
								1				i	_	
35					-			1					5. OVA readings: a) 50 ppm at 3.5 feet.	
						-		1					b) 80 to 100 ppm at 6.0 feet. c) 30 ppm at 9.0 feet.	
												:	d) 50 ppm at 10.5 feet.	
10	-				<u> </u>	-		1						
		<b></b>					<u> </u>	1		ļ				

PROJECT No. 86-018-1804

BORING No. BOR-20

LOGGED BY BB

PROJE BORIN DRILLE D E P	NG I	LOCA							ase 2A S					
DRILLE D E					Sou	un or a	AVAN							
D E	EK:		SOPO		٠ ١				west of			•	SURFACE ELEV. 114.1 feet	
E			орсс.	rum E	xpio	ration	1 - G	arry E	suss	DATE	: ST		7/17/90 FINISH 7/17/90	1 -
1 1		SAME	O			BLOW	,	REC	USCS	wc		L D	CON DECODIDATION	P
'		SHIVIE	- LE			COUN.		ne.C	SOIL	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	qu	YP	SOIL DESCRIPTION	
T No	lo. 1	TYPE	INTE	RVAL	0"	6"	12"	(in)	TYPE	(%)	(TSF)	ET	AND REMARKS	E
н			FROM	TO	6"	12"	18"	(,		(.0)	```	RH	AND INCIDENCE	0
	Ť	Ī											Asphalt. (Fill)	Ť
1	1	cs	0.5	2.0	15	12	13	15	GP-SM			0.5	Medium dense, brown, silty sandy gravel,	$\mathcal{H}$
2	_	cs	2.0	3.5	9	9	11	15	SM			1.0	dry. (Fill)	$\vdash$
	1	t											Medium dense, light brown, silty fine sand,	$\vdash$
5 3	3	cs	3.5	5.0	6	8	8	15	SM				moist. (Fill)	$\vdash$
4	4	cs	5.0	6.5	5	5	5	18	SM				saturated below 5.0 feet.	
	T													
5	5	cs	6.5	8.0	3	3	2	12	SM				color change to brown at 8.0 feet.	
6	6	CS	8.0	9.5	4	4	4	7	SM				(native soil approximately below	$\vdash$
10													8.0 feet)	Г
7	7	cs	9.5	11.0	2	1	2	12	SM					
8	8	cs	11.0	12.5	2	1	3	13	SM					
l ∟	<u> </u>													
9	_	cs	12.5	14.0	1	1	1	12	SM					
15 10	10	cs	14.0	15.5	2	2	1	12	SM			14.0	Loose, dark gray, silty sand, saturated,	
-	$\bot$												some shells.	
_	4											15.5	Bottom of Boring at 15.5 feet.	L
-	+													
	+					$\square$							Notes:	L
20	+					$\vdash$					:		. <b>_</b>	
<b>│</b>	-					$\vdash$							Boring was advanced using 8-inch-	<u> </u>
	-												diameter hollow stem augers.	<u> </u>
-	-				<u> </u>	$\vdash$							6 Crayman and an analysis and at	$\vdash$
	┿												Groundwater was encountered at     February deliting	$\vdash$
25	+	-											5.5 feet during drilling.	-
-	$\dashv$												3. Sampler type:	-
-	+												California Sampler (CS)	-
	+												O.D.: 2.5 inches	$\vdash$
30	$\dashv$												I.D.: 2.0 inches	-
	_	-				$\vdash$								$\vdash$
	$\top$												4. Boring was backfilled with cement/	$\vdash$
	$\top$								ŀ				bentonite grout upon completion of	$\vdash$
	$\dashv$												drilling.	
35	$\top$	$\neg$												Г
	$\top$												5. OVA readings:	Г
													a) 10 ppm at 15.0 feet.	$\vdash$
													. ,,	Τ
									ļ					
40														
		I												

PROJECT No. 86-018-1804

BORING No. BOR-21 LOGGED BY BB NAS Alameda - Phase 2A Site Investigations PROJECT NAME: **BORING LOCATION:** Storage yard (near NE corner of Bidg. 530) SURFACE ELEV. 113.5 feet DRILLER: Spectrum Exploration - Garry Buss DATE: START **FINISH** 7/19/90 L D Ε SAMPLE **BLOW** REC USCS WÇ A E qu SOIL DESCRIPTION COUNT SOIL Y P Ε No. TYPE INTERVAL 6" 12" TYPE (TSF) E T Τ (in) (%) AND REMARKS z FROM TO 6" 12" 18" RH Н 0 Asphalt. (Fill) Dense, light brown, silty fine sand, moist, CS 0.5 2.0 15 21 22 12 SM 0.5 CS 2 2.0 3.5 11 22 18 13 SM trace of shells. 5 3 CS 5.0 25 25 14 SM 3.5 15 CS 16 15 14 SM 5.0 6.5 12 saturated below 5.5 feet. 5 CS 6.5 8.0 7 17 14 SM 7 CS 6 8.0 5 6 10 9.5 15 SM 10 CS 9.5 11.0 2 3 7 SM some shells below 10.0 feet. cs 14 8 11.0 12.5 12 21 Dense, mottled gray orange brown, silty SM 15 11.5 fine sand, saturated, trace of clay. CS 12.5 14.0 10 20 30 18 SM (Merritt Sand) 15 10 CS 14.0 15.5 15 15 15 13 SM Bottom of Boring at 15.5 feet. 15.5 Notes: 20 1. Boring was advanced using 8-inchdiameter hollow stem augers. 2. Groundwater was encountered at 5.5 feet during drilling. 25 3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches 4. Boring was backfilled with cement/ bentonite grout upon completion of drilling. 35 5. OVA readings: a) 2 ppm at 9.5 feet. b) 2 ppm at 13.5 feet. 40 Page:

PROJECT No. <u>86-018-1804</u>

BORING No. <u>BOR-22</u>

LOGGED BY RMD

PRC	UEC	T NAI	MF.		NAS	Alan	moda	- Ph	ase 2A S	Site In	/ostina	ations		
			ATION	1:					0 in parl				URFACE ELEV. 114.0 feet	
DRIL				 trum E							: ST	•	7/23/90 FINISH 7/23/90	
D			7									L D		P
E		SAM	PLE		l	BLOW		REC	USCS	wc	qu	ΑE	SOIL DESCRIPTION	1
P	No.	TYPE	INTE	RVAL	0"	COUN.	12"	(in)	SOIL TYPE	(%)	(TSF)	Y P E T	AND REMARKS	E
H	110.	,	FROM		6"	12"	18"	(""	'''-	(~)	(10,7	RH	AND HEMANIA	0
	1	CS	0.0	1.5	4	10	11	13	SM			0.3	Asphalt. (Fill)	T
													Medium dense to dense, light brown, silty	
	2	CS	1.5	3.0	7	22	25	17	SM				fine sand, moist. (Fill)	L
_	3	CS	3.0	4.5	10	10	12	12	SM				shells at 2.0 feet.	
5	4	CS	4.5	6.0	7	16	18	14	SM				saturated below 5.3 feet.	-
	5	CS	6.0	7.5	12	11	12	15	SM				Saturated below 5.3 reet.	┝
	Ť	-00	0.0	1	<u> </u>	H	<u>'-</u> -	"	0					$\vdash$
	6	CS	7.5	9.0	5	5	9	16	SM			8.0	Medium dense, gray brown, silty fine sand,	Τ
10	7	CS	9.0	10.5	4	6	5	15	SM				saturated, some shells.	
			<u> </u>											L
	9	CS CS	10.5	12.0	3	1 00	1 04	16 18	SM-CL SM			11.0	Very soft, dark gray, silty clay, saturated. (Bay Mud)	
	9	_ CS_	12.0	13.5	8	22	24	18	SM			12.5	Dense, light orange brown-mottled gray	$\vdash$
15	10	CS	13.5	15.0	10	20	12	14	SM		}	12.5	green, clayey silty sand, sulphur type	$\vdash$
													odor, saturated. (Merritt Sand)	$\vdash$
								1				15.0	Bottom of Boring at 15.0 feet.	
					ļ									L
													Notes:	L
20	-		<del> </del>		├								Boring was advanced using 8-inch-	-
	-												diameter hollow stem augers.	-
					<u> </u>								dameter new diam adgere.	H
											İ		2. Groundwater was encountered at	
25													5.3 feet during drilling.	
	_		<u> </u>	<u> </u>	<u> </u>	<u> </u>							3. Sampler type:	L
				<del> </del>	-		<del>                                     </del>	1	<u> </u>				California Sampler (CS) O.D.: 2.5 inches	$\vdash$
30	$\vdash$		<del>                                     </del>	<del>                                     </del>			<u> </u>	1		}			I.D.: 2.0 inches	-
						<b></b>				•				$\vdash$
İ													4. Boring was backfilled with cement/	
													bentonite grout upon completion of	
							<u> </u>	1					drilling.	
35			ļ		ļ	ļ		-					- 0\/A	_
		<u> </u>	<del> </del>	ļ			<del> </del>	1					5. OVA readings: No OVA readings	$\vdash$
		<del>                                     </del>	<del> </del>	-	-	<b> </b>	<del>                                     </del>	1					observed during drilling.	_
1	_		<del> </del>			ļ —								$\vdash$
40								1						
1								]						
			<u> </u>						<u> </u>	<u> </u>	<u></u>	<u> </u>		

PROJECT No. 86-018-1804

BORING No. BOR-23

LOGGED BY BB

			ATION		Last	0, 0	unan	ig Jo	0 in parl	King ic	) t		URFACE ELEV. 113.2 feet
	LER	l:	Spect	rum E	xplo	ration	1 - G	arry E	Buss	DATE	: ST		<b>7/20/90 FINISH</b> 7/20/90
E P		SAM	PLE			BLOW		REC	USCS	wc	qu	L D A E Y P	SOIL DESCRIPTION
г -	No.	TYPE	INTE FROM	RVAL TO	0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS
										Î		0.3	Asphalt. (Fill)
	1 2	CS CS	0.5 2.0	2.0 3.5	15 10	20 18	30 16	15 14	SM SM				Very dense, light brown, silty fine sand, moist. (Fill)
								]					rock fragments between 2.5 and 4.0 fee
5	3	CS	3.5	5.0	7	11	18	18	SM				shells below 4.0 feet.
	4	cs	5.0	6.5	10	30	35	15	SM				saturated below 6.0 feet.
	5	CS	6.5	8.0	10	15	25	7	SM				
	6	CS	8.0	9.5	10	15	11	12	SM			9.0	Medium dense, gray silty sand, saturated.
٥	_	CS	0.5	11.0			-		CM	Solen			
	7 8	CS	9.5 11.0	11.0 12.5	8	9	5 18	13 18	SM CL-SM			11.0	Medium dense, black, silty sandy clay,
												12.0	saturated. (Bay Mud)
	9	CS	12.5	14.0	5	15	10	12	SM				Medium dense, light orange brown, silty
5	10	CS	14.0	15.5	12	13	14	18	SM				fine sand, saturated.
		<del></del>	<u> </u>									15.5	clayey sand layer between 12.0 and 12.5 feet.
								1					some clay below 13.0 feet.
Ì							-						Bottom of Boring at 15.5 feet.
20													
													Notes:
								1					1. Boring was advanced using 8-inch-
								1			1		diameter hollow stem augers.
5													
													Groundwater was encountered at     6.0 feet during drilling.
ĺ													
								1					3. Sampler type:
30													California Sampler (CS)
			ļ			-							O.D.: 2.5 inches
			<u> </u>					}					I.D.: 2.0 inches
				-									4. Boring was backfilled with cement/
35								1					bentonite grout upon completion of
į													drilling.
													5 OVA readings.
	-							1					5. OVA readings: a) 2 ppm at 9.0 feet
40													a) 2 ppm at 3.0 leet
								1					

PROJECT No. 86-018-1804

BORING No. BOR-24

LOGGED BY RMD

PRC	JFC	T NA	ME.		NAS	Alar	neda	. Ph	ase 2A S	Site In	vestice	atione		_
			ATION	<b>l</b> :									SURFACE ELEV. 113.8 feet	
DRIL			Spec								: ST	-	7/19/90 FINISH 7/19/90	_
D E P		SAM				BLOW	,	REC	USCS SOIL	wc	qu	L D A E Y P	SOIL DESCRIPTION	P 1
T H	No.	TYPE	INTE		0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	ETRH	AND REMARKS	Z
				-							1	0.3	Asphalt. (Fill)	Ŧ
	1	CS	0.5	2.0	22	15	20	8	SM				Dense, brown, silty fine sand. (Fill)	ľ
	2	CS	2.0	3.5	8	9	12	13	SM				some granite gravel at 1.5 feet.	
			ļ										becomes medium dense at 2.0 feet.	L
5	3	CS	3.5	5.0	3	4	4	16	SM	1			becomes loose at 3.5 feet.	Ļ
	4	CS	5.0	6.5	3	3	3	16	SM-SC			6.0	Loose, mottled orange brown and gray,	L
	5	cs	6.5	8.0	3	4	5	14	sc				clayey fine sand, saturated, abundant iron stains. (Merritt Sand)	H
	6	CS	8.0	9.5	14	12	14	17	SC				non stains. (Merritt Sand)	┝
10	Ť		0.0			<u> </u>	<del></del>	1 ''		1				H
	7	CS	9.5	11.0	8	8	8	17	sc					r
	8	cs	11.0	12.5	3	9	16	18	SC-SM	,		12.0	Medium dense, orange brown, silty sand,	E
		ļ	<b></b>			<u> </u>	<u> </u>		SR-	13:5			saturated, trace of clay. (Merritt Sand)	Ĺ
	9	CS	12.5	14.0	3	9	16	15	SM	Or V				L
15	10	cs	14.0	15.5	12	9	10	18	SM				(B	L
					<del>                                     </del>							15.5	Bottom of Boring at 15.5 feet.	L
		<del>                                     </del>			-	-							Notes:	$\vdash$
	_	$\vdash$			<del>                                     </del>	<del>                                     </del>		1					Notes.	$\vdash$
20								1					1. Boring was advanced using 8-inch-	┝
								1					diameter hollow stem augers.	Γ
								]						
ļ													Groundwater was encountered at	
					<u> </u>								5.0 feet during drilling.	_
25			ļ		<u> </u>									L
													3. Sampler type:	L
					-								California Sampler (CS)	L
	<u> </u>	<del> </del>											O.D.: 2.5 inches I.D.: 2.0 inches	$\vdash$
30	$\vdash$												I.D 2.0 inches	H
"													4. Boring was backfilled with cement/	H
					<del> </del>								bentonite grout upon completion of	
								1					drilling.	Γ
1														
35													5. OVA readings: No OVA readings	
	<u></u>					ļ							observed during drilling.	L
	<u> </u>		ļ	ļ		ļ								L
						<b></b>								<u> </u>
1,0	-				<del>                                     </del>									-
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	$\vdash$	<del> </del>	<del> </del>	<b> </b>		<del> </del>								_
Page	ч	<u> </u>		1	1	Ь	Ь	L	L	1	1	ļ	1	_

PROJECT No. 86-018-1804 BORING No. BOR-25 LOGGED BY RMD NAS Alameda - Phase 2A Site Investigations SE of Building 530, W of Cans C2 Area SURFACE ELEV. 114.6 feet DATE: START 7/20/90 FINISH 7/20/90 LD WC ΑE SOIL DESCRIPTION qu E Z Y P T No. TYPE INTERVAL 0" 6" 12" (in) TYPE (%) (TSF) E T AND REMARKS

1 CS 2 CS 3 CS 4 CS 5 CS 6 CS 7 CS 8 CS 9 CS	1.5 3.0 4.5 6.0 7.5 9.0	3.0 4.5 6.0 7.5 9.0 10.5	6" 21 12 8 10 10 10 6	12" 24 17 12 20 20	18" 27 16 10 15	14 14 16 18 15	SM SM SM			0.3	Asphalt. (Fill)  Dense, yellowish light brown, silty fine sand, moist. (Fill)	1
2 CS 3 CS 4 CS 5 CS 6 CS 7 CS 8 CS	1.5 3.0 4.5 6.0 7.5 9.0	3.0 4.5 6.0 7.5 9.0 10.5	12 8 10 10	17 12 20 20	16 10	14 16	SM SM			0.3	Dense, yellowish light brown, silty fine	7-
3 CS 4 CS 5 CS 6 CS 7 CS 8 CS	3.0 4.5 6.0 7.5 9.0	4.5 6.0 7.5 9.0 10.5	10 10 10	12 20 20	10	16 18	SM					
3 CS 4 CS 5 CS 6 CS 7 CS 8 CS	3.0 4.5 6.0 7.5 9.0	4.5 6.0 7.5 9.0 10.5	10 10 10	12 20 20	10	16 18	SM				sand, moist. (Fill)	
4 CS 5 CS 6 CS 7 CS 8 CS	4.5 6.0 7.5 9.0	6.0 7.5 9.0 10.5	10	20	15	18						
5 CS 6 CS 7 CS 8 CS	7.5 9.0	9.0 10.5	10	20		_	SM		Į.			
5 CS 6 CS 7 CS 8 CS	7.5 9.0	9.0 10.5	10	20		_	SM	ł	Į.	1		₹
5 CS 6 CS 7 CS 8 CS	7.5 9.0	9.0 10.5	10		15	15		1		4.5	Dense, light brown, silty fine sand, moist,	Γ
6 CS 7 CS 8 CS	9.0	10.5	_	15			SM	Ì			with seashell fragments.	_
7 CS 8 CS	9.0	10.5	_	15							saturated below 5.5 feet.	Γ
7 CS 8 CS	10.5		6		20	15	SM	1		8.0	Dense, gray, silty fine sand, saturated.	T
8 CS		100	<del></del>	12	15	16	SM	}		\ \ \	becomes medium dense at 9.0 feet.	T
		100										
		12.0	2	3	5	15	SM		ļ	i i	becomes loose at 10.5 feet.	
	1 12.0	13.5	2	3	4	15	SM					۲
	1										color change to dark gray at 13.0 feet.	
10 CS	13.5	15.0	3	5	6	14	SM		<b> </b>	13.8	Loose, orange brown mottled with gray,	7
	1	10.0	1	<del>                                     </del>	Ť					15.0	silty fine sand, saturated. (Merritt Sand)	1
<del>-   -</del>	<del> </del>		<u> </u>								Bottom of Boring at 15.0 feet.	r
	<del>                                     </del>			<del>                                     </del>	_	Ì	]		Ì		<b>3 3</b>	r
	†	<u> </u>									Notes:	r
	1			<del>                                     </del>			İ					h
<del>   </del>	†			1		1				}	Boring was advanced using 8-inch-	卜
_	<del> </del>	<b></b>									-	1
_	<del>                                     </del>		<b></b> -	<del>                                     </del>	<u> </u>	1	1	Ì				r
	<del>                                     </del>		<b>-</b>	-	-	1				l	Groundwater was encountered at	-
	+	<del>                                     </del>	<b></b> -	$\vdash$		1	}	1	<b>l</b>	1		h
<del></del>		<del> </del>	$\vdash$	<del>                                     </del>						Ĭ.	5.5 .55. dam.g	H
	<del>                                     </del>	<del> </del>		_	<del>                                     </del>	l	l				3 Sampler type:	-
<del></del> -	+	$\vdash$	<del>                                     </del>	<del>                                     </del>		ì	Ì					卜
	+	<del> </del>	<del>                                     </del>	<del> </del>	_	ł						H
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	<del>                                     </del>	$\vdash$	<del> </del>	+-	<b></b> -		1				4 Roring was backfilled with cement /	H
<del></del>	-	├	$\vdash$	-	$\vdash$	i						+
		<del>                                     </del>	$\vdash$	┼─	<del>                                     </del>	ł						十
	+	┼	ł	+		1	<u> </u>	1		}	i ariimig.	+
	+		├			ł		1			5 OVA readings: No OVA readings	H
	+		┼	+	-	1		ļ			. •	$\vdash$
	<del> </del>	┼	$\vdash$	├─	<del>                                     </del>	ł	]				Observed during drawing.	-
-	+	<del>                                     </del>	-	<del> </del>	├─	1						+
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-	+	<del> </del>	<del>                                     </del>	-	-	ł						}
- 1	1	1	1	ł	1	I	1	•				1
												1. Boring was advanced using 8-inch-diameter hollow stem augers.  2. Groundwater was encountered at 5.5 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was backfilled with cement/bentonite grout upon completion of drilling.  5. OVA readings: No OVA readings observed during drilling.

PROJECT NAME:

E

**BORING LOCATION:** 

SAMPLE

Spectrum Exploration - Garry Buss

**BLOW** 

COUNT

REC USCS

SOIL

PROJECT No. <u>86-018-1804</u>

BORING No. <u>BOR-26</u>

LOGGED BY <u>RMD</u>

OF	ING	LOC	ATION	l:	S of	stora	ige y	ard, I	V of Car	ns C2	Area	S	URFACE ELEV. 113.6 feet
RIL	LEF	R:	Spect	rum E							: ST	ART	7/24/90 FINISH 7/24/90
D E P		SAM	PLE		i .	BLOW		REC	USCS	wc	qu	L D A E Y P	SOIL DESCRIPTION
T H	No.	TYPE	INTE FROM		0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS
													Asphalt/steel grate runway
	1	CS	0.5	2.0	14	11	11	15	SM			0.5	Medium dense, light brown, silty fine sand,
	2	CS	2.0	3.5	12	14	11	14	SM				moist. (Fill)
5	3	CS	3.5	5.0	7	14	12	1.0	CNA				lenses of clay and gravel from 2.5 to 3.5 feet.
5	4	CS	5.0	6.5	5	6	8	16 15	SM SM			5.5	Loose, gray, silty fine sand, saturated.
	_	- 03	3.0	0.5	۲	-	۴	13	Sivi			3.3	Loose, gray, sitty line sand, saturated.
	5	CS	6.5	8.0	2	3	5	15	SM				
	6	CS	8.0	9.5	2	3	4	16	SM				
10													
	7	CS	9.5	11.0	2	4	3	14	SM				
	8	CS	11.0	12.5	2	1	2	18	SM-SC			12.0	Loose, dark gray, clayey sand,
	9	CS	12.5	14.0	8	10	44		CM		•	10.5	saturated, with pockets of silty clay.  Medium dense, black to dark gray, silty
15	10	CS	14.0	14.0 15.5	7	10	11	18 7	SM SM			12.5	sand, saturated, some clay, some shells.
13	-0	- 03	14.0	13.3	<del>                                     </del>	12	12	<b>'</b>	SIM			15.5	Bottom of Boring at 15.5 feet.
												10.0	Dottom of Doming at 10.0 feet.
													Notes:
20													Boring was advanced using 8-inch-
													diameter hollow stem augers.
													0. Gravindoratar visa anacimtarad at
													<ol><li>Groundwater was encountered at 5.0 feet during drilling.</li></ol>
25													5.0 leet during driving.
								i					3. Sampler type:
								!					California Sampler (CS)
								]					O.D.: 2.5 inches
								]					I.D.: 2.0 inches
30													
													4. Boring was backfilled with cement/
													bentonite grout upon completion of
	$\vdash$				<del> </del>								drilling.
35	$\vdash$				_								5. OVA readings: No OVA readings
-					<del>                                     </del>	<del>                                     </del>							observed during drilling.
					<del>                                     </del>			1					or and or an ing
			1			1							
								]					
40													
										1			

PROJECT No. <u>86-018-1804</u>

BORING No. <u>BOR-27</u>

LOGGED BY RMD

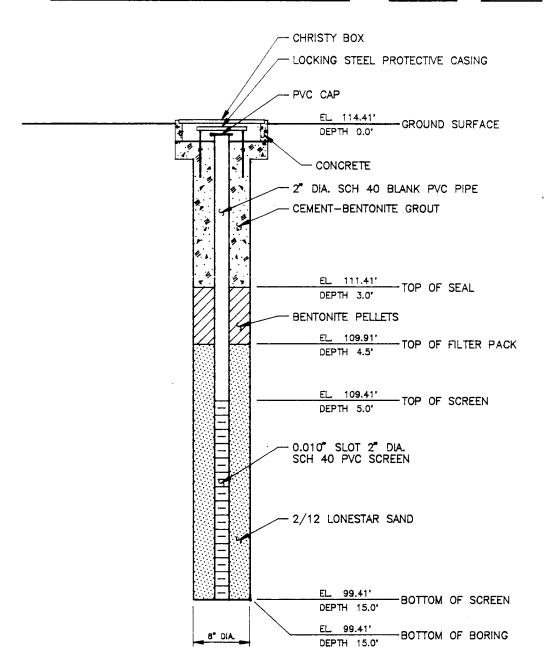
PRO	JEC	T NA	ME:		NAS	S Alan	neda	- Pha	ase 2A S	Site In	vestiga	ations				
BOF	RING	LOC	ATION	l:				_	C2 area							
	LLEF			trum E							: ST		7/20/90 FINISH 7/20/90			
D E P		SAM	PLE			BLOW		REC	USCS SOIL	wc	qu	L D A E Y P	SOIL DESCRIPTION			
T H	No.	TYPE	INTE FROM		0"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS			
													Asphalt. (Fill)			
	1	CS	0.5	2.0	20	25	20	14	SM			0.3	Dense, light brown, silty fine sand, dry,			
	2	CS	2.0	3.5	10	12	14	14	SM				trace of seashell fragments. (Fill)			
5	3	CS	3.5	5.0	9	9	12	15	SM				some fiberglass cloth debris at 0.5 feet. becomes medium dense at 2.0 feet.			
3	4	CS	5.0	6.5	7	8	6	14	SM				becomes medium dense at 2.0 feet.			
		- 50	0.0	<del></del>	<u> </u>		Ť	'	0.0.				saturated below 5.3 feet.			
	5	CS	6.5	8.0	5	7	6	16	SM			6.5	Medium dense, gray, brown, silty fine			
	6	cs	8.0	9.5	4	3	6	15	SM				sand, saturated.			
10													. [			
	7	CS	9.5	11.0	4	5	6	18	SM							
	8	CS	11.0	12.5	2	3	4	16	SM							
	9	CS	12.5	14.0	2	2	2	16	CL			12.8	Soft, dark gray, silty clay, saturated.			
15	10	CS	14.0	15.0	3	3			SM			13.3	(Bay Mud)			
_	Ì					<u> </u>		1	•				Loose, gray, silty sand, saturated, with			
													trace of clay. (Soupy texture)			
												15.0	Bottom of Boring at 15.0 feet.			
				ļ		L										
20													Notes:			
							_		•				1 Paring was advanged using 8 inch			
	Н												Boring was advanced using 8-inch- diameter hollow stem augers.			
	Н					$\vdash$							diameter notion sterri augers.			
25													2. Groundwater was encountered at			
													5.3 feet during drilling.			
	<u> </u>				<u> </u>								3. Sampler type:			
30	-												California Sampler (CS)			
30	$\vdash$					$\vdash$							O.D.: 2.5 inches			
						$\vdash$							1.D 2.0 IIICHES			
		-											4. Boring was backfilled with cement/			
													bentonite grout upon completion of			
35													drilling.			
	<u> </u>															
	-					$\vdash \vdash \vdash$							5. OVA readings: No OVA readings			
	$\vdash\vdash$					├							observed during drilling.			
40						$\vdash$							 			
						$\vdash$				1						
L								<u> </u>								
Page	):	1	of	1												

#### Monitoring Well Detail

PROJECT No. 86-018-1804
WELL No. MWOR-1

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 397, NORTHEAST CORNER DATE 7-16-90 BY RMD



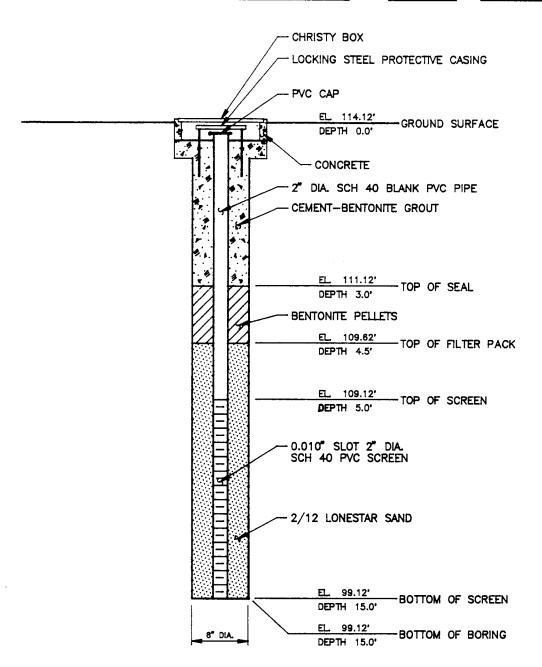
- 1. NOT DRAWN TO SCALE.
- 2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

## Monitoring Well Detail

PROJECT	No.	86-018-1804
WELL No.	MW	OR-2

PROJECT NAME NAS ALAMEDA—PHASE 2A SITE INVESTIGATION

WELL LOCATION NORTHEAST CORNER OF 9TH ST. AND AVE. L DATE 7-17-90 BY BB



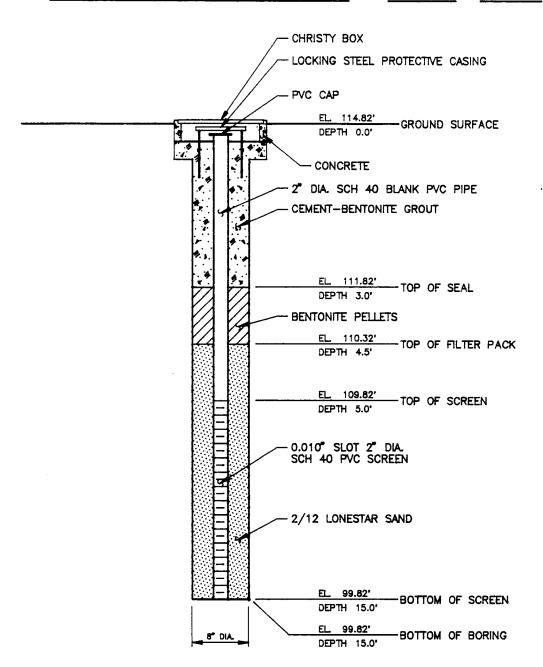
- 1. NOT DRAWN TO SCALE.
- 2. SEE BORING LOG
  - FOR DETAILED SOIL DESCRIPTION.

### Monitoring Well Detail

PROJECT N	o. 86-018-1804
WELL No.	MWOR-3

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION EAST OF 11TH STREET BETWEEN AVENUES K & L DATE 7-17-90 BY BB



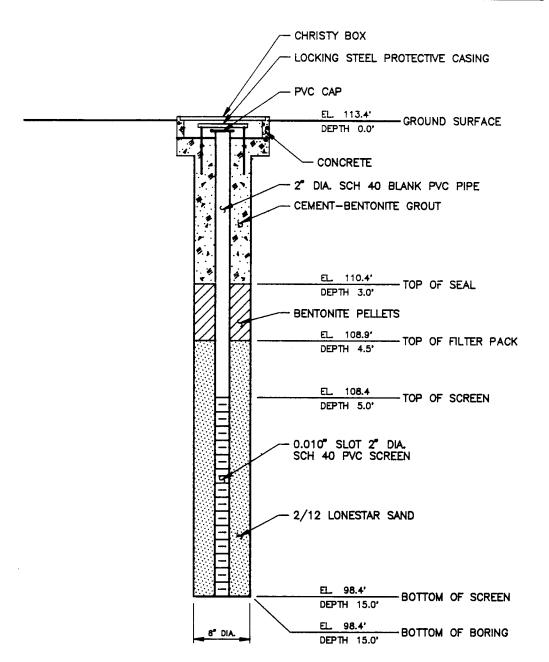
- 1. NOT DRAWN TO SCALE.
- 2. SEE BORING LOG
  - FOR DETAILED SOIL DESCRIPTION.

### Monitoring Well Detail

PROJECT No. 86-018-1804
WELL No. MWOR-4

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION STORAGE AREA, BY EAST FENCE DATE 7-19-90 BY RMD

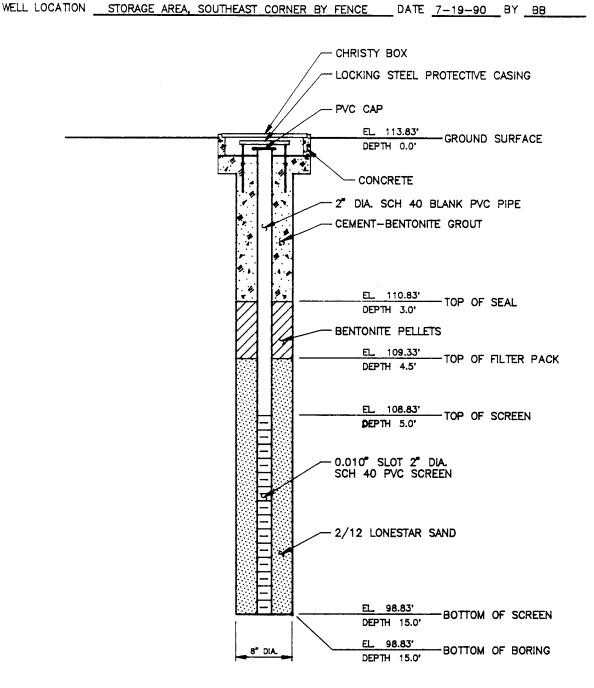


- 1. NOT DRAWN TO SCALE.
- 2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

### Monitoring Well Detail

PROJECT No. 86-018-1804
WELL No. MWOR-5

PROJECT NAME NAS ALAMEDA—PHASE 2A SITE INVESTIGATION



- 1. NOT DRAWN TO SCALE.
- 2. SEE BORING LOG
  - FOR DETAILED SOIL DESCRIPTION.

APPENDIX G

CANS C-2 AREA
BORING LOGS AND MONITORING WELL
CONSTRUCTION DETAILS

PROJECT No. <u>86-018-1804</u>

BORING No. <u>MWC2-1</u>

LOGGED BY RMD

PRO	JEC	T NAI	ME:		NAS	Alan	neda	- Pha	ase 2A S	Site In	vestiga	ations		===
			ATION	:					C-2 by		<u> </u>		URFACE ELEV. 113.41 feet	
DRIL	LER	:	Spect	rum E	xplo	ratior	1 - Ga	arry E	Buss	DATE	: ST	ART	7/25/90 FINISH 7/25/90	
D E P		SAM	PLE	-	1	BLOW		REC	USCS SOIL	wc	qu	L D A E Y P	SOIL DESCRIPTION	P I E
Т	No.	TYPE	INTE		0"	6"	12"	(in)	TYPE	(%)	(TSF)	ЕΤ	AND REMARKS	Z
H			FROM		6"	12"	18"					RH		0
	1	CS	0.0	1.5	15	18	23	15	SM			0.3	Steel grate runway.  Dense, light brown, silty fine sand, moist.	├
	2	cs	1.5	3.0	12	16	12	16	SM				(Fill)	$\vdash$
	3	CS	3.0	4.5	6	9	7	14	SM				( "')	一
5	Ť		0.0		٦		<u> </u>	``	J				saturated below 4.5 feet.	
	4	CS	4.5	6.0	1	4	5	15	SM		1	5.5	Medium dense, gray brown, silty fine sand,	X
	5	CS	6.0	7.5	3	4	6	16	SM				saturated, some shells at 6.5 feet.	X
														X
	6	cs	7.5	9.0	3	7	8	15	SM	İ	Ì			X
10	7	cs	9.0	10.5	5	4	4	16	SM				becomes loose at 9.0 feet.	XXXXXXXXX
	•	- 6	10.5	100	3	4		18	SM			10.8	Loose, black to dark gray, silty fine sand, saturated, with white shells, abundant	÷
Į	9	CS CS	10.5	12.0 13.5	4	6	8	7	SM	ļ		ļ	silt.	<del> </del>
	Ť	-00	12.0	10.0	<del>                                     </del>	† <u> </u>	Ŭ	1 ′	0				becomes medium dense at 12.5 feet.	X
15	10	CS	13.5	15.0	3	5	8	0	SM	ļ				X
1								]	Ì	1		15.0	Bottom of Boring at 15.0 feet.	
											1			_
			<u> </u>	<u></u>	L_	<u> </u>	L	1	1				Notes:	_
				<u> </u>	ļ		<u> </u>	ļ					4. Destruction advantage 0 in the	-
20		<u> </u>	<u> </u>	<u> </u>	<del>-</del>	<b> </b>	├	-					Boring was advanced using 8-inch- diameter hollow stem augers.	-
1				<u> </u>	┼	+-	<del>                                     </del>	┨			:		diameter hollow stern augers.	┝
	<del> </del>		<del> </del> -	<del> </del>	-	<del> </del>	<del>                                     </del>	┨				<b>.</b>	2. Groundwater was encountered at	$\vdash$
	-		<del>                                     </del>	<del>                                     </del>	1	<del>                                      </del>	<del>                                     </del>	1			Ì	ŀ	4.5 feet during drilling.	
25								1				l		
1								]				ŀ	3. Sampler type:	
ł								]					California Sampler (CS)	L
1				<u> </u>	1	↓		Į.	1		1		O.D.: 2.5 inches	L
			ļ	<u> </u>	₩	↓	<b>├</b>	4					I.D.: 2.0 inches	-
30	<u> </u>	<del>                                     </del>	<del>                                     </del>	├	<del> </del>	┼		4	}	1	1		Boring was converted to a monitoring	-
	-	<del> </del>	-	<del> </del>	+	┼─	╫┈	4					well upon completion of drilling.	卜
	├	<del> </del>	<del> </del>	<del>                                     </del>	╁	┼─	╁─╴	┫		1			Well aport completion of arising.	-
	_	<del>                                     </del>	+-		+	<del> </del>	$\vdash$	1					5. OVA readings:	-
35		<del>                                     </del>			<b>†</b>	1	$\top$	1					a) 5 ppm at 10.0 feet.	
								1						
								]						L
					4	1_	1	1			1		1	1
	$\vdash$	<del> </del>	<del> </del>	-	┼	┼—	_	4			1			-
40	$\vdash$		<del> </del>	-	+	+-	1	-		1	1			-
	-	-	+	+	+	+	+	1						-
Page	<u>.                                    </u>	<u> </u>		1 1	ــــــــــــــــــــــــــــــــــــــ		1	1	1			<del>-</del> -		Т.

PROJECT No. 86-018-1804

BORING No. MWC2-2

LOGGED BY RMD

_			ATION						utside f			•	URFACE ELEV. 114.79 feet
_	LER	<u>:</u>	Spect	rum E	xplo	ratior	<u> </u>	arry E	Buss	DATE	: ST/		7/24/90 FINISH 7/24/90
D   E   P		SAM	PLE			BLOW		REC	USCS	wc	qu	L D A E Y P	SOIL DESCRIPTION
T ⊣	No.	TYPE	FROM	TO_	0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS
													Asphalt. (Fill)
	1	cs	0.5	2.0	24	24	30	14	SM			0.5	Very dense, light brown, silty fine sand,
	2	cs	2.0	3.5	12	26	23	15	SM		•		moist. (Fill)
													pockets of clay and gravel from 0.5 to
5	3	CS	3.5	5.0	5	11	12	14	SM				1.5 feet.
	4	CS	5.0	6.5	3	8	7	14	SM				becomes medium dense at 3.5 feet.
					L		L						becomes saturated at 5.5 feet.
	5	CS	6.5	8.0	9	7	7	18	SM				color change to gray at 7.5 feet.
	6	CS	8.0	9.5	5	3	5_	14	SM	İ			becomes loose at 8.0 feet.
0					<b>!</b>	ļ	<b>-</b>	. '				9.5	Very loose to loose, grayish brown, silty
	7	CS	9.5	11.0	1	1	1_	15	SM	i			fine sand, saturated, with shell fragments increase in silt content below 10.0 feet.
į	8	cs	11.0	12.5	2	5	3	14	SM				Loose, black to dark gray, silty fine sand,
	_	CC	10.5	14.0	1	2	2	15	SM			13.8	saturated, with shells.
_	9	CS	12.5	14.0	4	6	4	15	SM			14.3	Loose, greenish gray, silty fine sand,
5	10	US	14.0	:0.5	4	1 8	-	1 '3	SIVI	İ		14.3	saturated, with few shells.
					-	<del> </del>	<del>                                     </del>	1				15.5	Saturated, With lew Shells.
					<del>                                     </del>	<del>                                     </del>	-	┧				13.3	Bottom of Boring at 15.5 feet.
						-	-	1					Bottom of Botting at 10.0 100t.
20					<del>                                     </del>	<del>                                     </del>	<del>                                     </del>	1			1		Notes:
-0					<del>                                     </del>			1					
								1					1. Boring was advanced using 8-inch-
								1	]				diameter hollow stem augers.
								1					_
25								1		1		}	2. Groundwater was encountered at
								]					5.5 feet during drilling.
								]			ļ		
								1	1				3. Sampler type:
				<u> </u>		ļ		1				}	California Sampler (CS)
30				<u> </u>	<u> </u>	<u> </u>		1	]		1	]	O.D.: 2.5 inches
			<u> </u>	L	<b> </b>	<b> </b>		4				1	I.D.: 2.0 inches
		ļ	<u> </u>		<u> </u>	<b>├</b>	<u> </u>	1			{	1	
	<u> </u>				<u> </u>	<u> </u>	<u> </u>	4					4. Boring was converted to a monitoring
			<del> </del>		—	↓	<del> </del>	4				l	well upon completion of drilling.
35			<del>                                     </del>		1	<b>├</b>	-	-					5 OVA readings:
		<b> </b>	<b>↓</b>		ļ	<del> </del>	-	4			<b>!</b>	ŀ	5. OVA readings:
	<u> </u>		<del> </del>		-	├	-	4		1		1	a) 2-5 ppm at 14.5 feet.
	_	<del> </del>		-	-	├	-	-{					
	<u> </u>	<del> </del>	<del> </del> -	<del>  -</del>	-	<del> </del>	├-	┨			1		
40	<u> </u>		<b>├</b>	<b>-</b>	—	<del> </del>	₩-	4		-		1	

PROJECT No. <u>86-018-1804</u>

BORING No. <u>MWC2-3</u>

LOGGED BY <u>RMD</u>

PPC	JEC	T NA	ME.		NAS	Alan	nodo	- Dh	ase 2A S	ito In	, cotica	tions		
			ATION	<b>!:</b>					Cans C				SURFACE ELEV. 112.43 feet	
DRIL			Spect								: ST/	•	7/25/90 FINISH 7/25/90	
D E P		SAM				BLOW COUN	,	REC	USCS SOIL	wc	qu	L D A E Y P	SOIL DESCRIPTION	P I E
T H	No.	TYPE	INTE FROM	TO	0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	Z
													Asphalt. (Fill)	工
	1	CS	0.5	2.0	20	45	5	8	SM			0.5	Dense, orangish brown, silty fine sand,	厂
	2	cs	2.0	3.0	4	10		0	SM-GP			2.0 3.0	with some gravel, moist. (Fill) Cobbles. (Fill)	$\downarrow$
5	3	CS	3.0	4.5	4	6	8	14	SM			3.0	Medium dense, light brown, silty fine sand,	-
	4	CS	4.5	6.0	1	1	1	15	SM				moist, with shells.	才×
									•			5.0	Loose, gray, silty fine sand, saturated,	X
	5	CS	6.0	7.5	1	2	2	16	SM				with shells.	X
10	6	CS	7.5	9.0	2	2	2	13	SM				no shells noted below 9.0 feet.	X
"	7	CS	9.0	10.5	3	5	5	12	SM				110 Silens floted below 3.0 feet.	÷
	8	CS	10.5	12.0	4	7	8	9	SM			10.5	Medium dense, dark gray, silty fine sand,	
													saturated, trace of clay.	×××
15	9	CS CS	12.0 13.5	13.5 15.0	4	8	8	8	SM SM				running sands noted during sampling.	X
13	10	Co	13.5	13.0	-	l •	9	١	SIM!			15.0	Bottom of Boring at 15.0 feet.	╀
								1						
													Notes:	
														$\vdash$
20										-			Boring was advanced using 8-inch- diameter hollow stem augers.	
													diameter nonow stem augers.	$\vdash$
													2. Groundwater was encountered at	H
1													5.0 feet during drilling.	
25													2. Complex trans.	Ш
													Sampler type:     California Sampler (CS)	Н
													O.D.: 2.5 inches	H
													I.D.: 2.0 inches	
30	<b></b>												A Bartanana a di di di di di di di di di di di di di	
	$\vdash$												Boring was converted to a monitoring well upon completion of drilling.	Н
	$\vdash$					$\vdash$							weil apon completion of drilling.	H
1													5. OVA readings: No OVA readings	H
35													observed during drilling.	
	<u> </u>													
	$\vdash$			-		-								Н
	$\vdash$		$\vdash$											Н
40														H
											:			
Page		1	of	1	<u> </u>			<u></u>					<u> </u>	Ш

PROJECT No. <u>86-018-1804</u>

BORING No. <u>BC2-4</u>

LOGGED BY <u>RMD</u>

PRO	).JE(	CT NA	ME:		NAS	S Alar	meda	- Ph	ase 2A	Site In	vestic	ations		_
			ATION	1:					of Cans				URFACE ELEV. 113.8 feet	
DRII	LLEF	₹:	Spec	trum E							: ST	•	7/24/90 FINISH 7/24/90	_
D E P		SAM				BLOW	v	REC	USCS SOIL	wc	qu	L D A E Y P	SOIL DESCRIPTION	PIE
Т	No.	TYPE	INTE	RVAL	0" 6"	6" 12"	12"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	Z
	1	cs	0.0	1.5	15	21	12	15	SM			0.3	Steel grate runway.	H
													Dense, light brown, silty fine sand, moist.	┢
ŀ	2	CS	1.5	3.0	11	23	14	16	SM		ļ		(Fill)	Г
	3	cs	3.0	4.5	6	9	8	16	SM		İ		becomes medium dense at 3.0 feet.	
5	_		ļ	<u> </u>	ļ	<u> </u>		ļ					concrete at 5.0 feet.	
	4	CS	4.5	6.0	11	9	7	15	SM			5.0	Medium dense, light brownish gray, silty	L
	5	cs	6.0	7.5	6	7	5	15	SM				fine sand, saturated, with shells.	L
	6	cs	7.5	9.0	3	5	5	16	SM					┝
10	7	cs	9.0	10.5	3	15	25	15	SM				becomes dense at 9.5 feet.	_
-			-	15.5	Ť	<u>                                   </u>			0				becomes loose at 10.5 feet.	-
	8	cs	10.5	12.0	3	4	5	16	SM				Soft to medium stiff, dark gray, clayey silt,	H
	9	CS	12.0	13.5	3	4	6	17	ML			12.0	saturated, with some organic matter,	
			<u> </u>										trace of shell fragments and thin	
15	10	CS	13.5	15.0	8	4	7	9	ML				lenses of clayey fine sand. (Bay Mud)	
	_						<u> </u>					15.0		_
						-							Bottom of Boring at 15.0 feet.	
	$\vdash$		_		<del>                                     </del>		-						Notes:	_
20					<del>                                     </del>		<del> </del> -						Notes.	_
													Boring was advanced using 8-inch-	
													diameter hollow stem augers.	
													J	_
													Groundwater was encountered at	
25						Щ							5.0 feet during drilling.	
	<u> </u>													
	_					$\vdash$							3. Sampler type:	
	-		-										California Sampler (CS)	
30	_		-										O.D.: 2.5 inches I.D.: 2.0 inches	
~												İ	E.U IIIOIIGS	_
													4. Boring was backfilled with cement/	_
												ļ	bentonite grout upon completion of	_
													drilling.	_
35													-	_
													5. OVA readings: No OVA readings	
	<u> </u>												observed during drilling.	
												ŀ		_
40												ľ		_
+0					-								}	
	<u> </u>					$\vdash$						ļ	<u> </u>	_
Page		<u> </u>	of.	1		<u> </u>				L	i			

PROJECT No. 86-018-1804

BORING No. BC2-5

LOGGED BY RMD

		TNA		•					ase 2A S		estiga/		
_	_	_	ATION	•					C-2 area			•	URFACE ELEV. 114.2 feet
	LER	:	Spect	rum E	xplo	ratior	1 - G	arry E	Buss	DATE	: STA		7/24/90 FINISH 7/24/90
D E P		SAMI	PLE		ľ	BLOW		REC	USCS	wc	qu	L D A E I Y P	SOIL DESCRIPTION
` }	No.	TYPE	INTE FROM	TO	0* 6*	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS
	1	CS	0.0	1.5	10	16	7	15	SM			0.3	Steel grate runway.
													Medium dense, light brown, silty fine sand,
	2	CS	1.5	3.0	7	25	22	16	SM-SC			2.0	moist. (Fill)
_	3	cs	3.0	4.5	25	18	17	15	GP-SM			3.3 3.8	Dense, light brown, clayey fine sand, moist. (Fill)
5	4	cs	4.5	6.0	5	7	9	13	SM			3.8	Dense, brown, sandy gravel, moist. (Fill)
Ì	5	CS	6.0	7.5	5	5	5	16	SM				Medium dense, light brown, silty fine sand,
	-		9.0	7.0	Ť	Ť	<u> </u>	1 "	0				moist. (Fill)
	6	CS	7.5	9.0	2	5	5	14	SM			8.0	saturated below 5.0 feet.
0	7	cs	9.0	10.5	2	3	3	15	SM				color change to gray brown at 6.0 feet.
												ŀ	Loose to medium dense, gray brown,
	8	cs	10.5	12.0	10	16	18	16	SM				silty fine sand, saturated, with shells.
	9	CS	12.0	13.5	3	5	5	17	SM				becomes dense at 11.0 feet with slight
							<u> </u>	┨	<b> </b>	•			color change and fewer shells.
5	10	cs	13.5	15.0	4	4	6	15	SM		 	150	becomes medium dense at 12.0 feet.
					-		_	┥	•	i		15.0	thin lens of silty clay (Bay Mud) at 13.0 feet.
	-							1	1				color change to dark gray at 13.5 feet.
	-					-		1					Color change to dark gray at 10.0 100t.
20	_			~	t	<del>                                     </del>	_	1	ļ		ļ	ļ	Bottom of Boring at 15.0 feet.
								1					
													Notes:
								1					
					ļ	<b> </b>		1					Boring was advanced using 8-inch-
25			ļ		<u> </u>	<b> </b>	_	4		l		1	diameter hollow stem augers.
			<b></b>	<u> </u>		<b>├</b>		-		1			2. Crayindurator was appayintared at
	$\vdash$	<del> </del>	├	<b> </b>	-	-	├	┨	ļ	1			<ol> <li>Groundwater was encountered at 5.0 feet during drilling.</li> </ol>
	$\vdash$		┼	<del> </del>	╂	┼─	├	┨					5.0 feet during drining.
30	<u> </u>		<del> </del>	<del>                                     </del>	╁	<del>                                     </del>	╫	1		Į .			3. Sampler type:
<b></b>		$\vdash$		<del>                                     </del>		†	T	1					California Sampler (CS)
	$\vdash$		<b>†</b>					1	1				O.D.: 2.5 inches
								]					I.D.: 2.0 inches
								]					
35								_		1		1	4. Boring was backfilled with cement/
	<u></u>	<u> </u>	<del>  </del>		<u> </u>	<del> </del>	<u> </u>	4					bentonite grout upon completion of
	-	<del> </del>	<del> </del>	<del> </del>	<del> </del>	<del> </del> —	_	4					drilling.
	<u> </u>	<b>├</b> ─	<del> </del>	<del> </del>	┼-	-	├-	4					5 OVA readings: No OVA readings
40	$\vdash$			<del> </del>	-	+	-	$\dashv$					<ol><li>5. OVA readings: No OVA readings observed during drilling.</li></ol>
40	$\vdash$	+	<del>                                     </del>	-	+-	+-	$\vdash$	1					Observed during drining.
	-	┼	+	+	+	+	+	-	1	1		1	

PROJECT No.	86-018-1804
BORING No.	BC2-6
LOGGED BY	BB

PRO	JEC	T NAI	ME:	<del></del> =	NAS	Alan	neda	- Pha	ase 2A S	ite In	restiga	ations		_
BOR	ING	LOC	ATION						ns C-2				SURFACE ELEV. 114.5 feet	_
DRIL	LER	l:	Spect	rum E	xplo	ratior	1 - G	arry E	Buss	DATE	: ST		7/25/90 FINISH 7/25/90	
D E P		SAMI	PLE			BLOW		REC	USCS	wc	qu	L D A E Y P	SOIL DESCRIPTION	PIE
T H	No.	TYPE	INTE		0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H		2 0
	1	cs	0.0	1.5	25	25	14	13	SM			0.3	Asphalt and steel grate runway. (Fill)	$\Box$
	2	CC	16	20	4	8	15	14	SM-CH			2.0	Dense, light brown, silty fine sand, moist. (Fill)	-
	3	CS CS	1.5 3.0	3.0 4.5	10	17	15	15	SC SC			2.5	becomes medium dense at 1.5 feet.	一
5	Ť		5.5		1,0	<del>                                     </del>	<u> </u>					3.5	Stiff, light brown, silty clay, moist. (Fill)	
	4	CS	4.5	6.0	8	14	12	15	SM				Medium dense, light brown silty fine sand/	
	5	cs	6.0	7.5	3	7	7	15	SM			6.0	\_moist. (Fill)	_
													Dense, orange brown, silty fine sand,	<b> </b>
10	6 7	CS CS	7.5 9.0	9.0	5	8 5	10	15	SM SM				moist, with shells.  Medium dense, gray brown, silty fine sand,	<del> </del>
'	$\vdash$	-00	9.0	10.5	-	-	-	1 "	0.0.				saturated, with trace of shells.	$\vdash$
]	8	CS	10.5	12.0	3	3	4	15	SM			11.0	increase in silt content below 8.0 feet.	
	9	cs	12.0	13.5	5	5	9	18	SM			1	Loose to medium dense, gray brown, silty	<u> </u>
		-				_			214				fine sand, saturated, some pockets of	_
15	10	CS	13.5	15.0	4	6	7	9	SM			15.0	lean clay.	-
			<del> </del>	<b>-</b>	-			1	İ			15.0	Bottom of Boring at 15.0 feet.	Г
1								1				1		
}								]				1	Notes:	
20					<u> </u>	<b>└</b> ─		-	l			į	4. But a sure advanced ustra 8 task	-
1	<u> </u>				-	├	-	┨	:				Boring was advanced using 8-inch- diameter hollow stem augers.	-
l	$\vdash$	<del> </del>	<del></del>		<del> </del>	$\vdash$	┢	┨	ļ	ļ	l	ļ	diameter nonow stem augers.	┝
				_		<del>                                     </del>	<del>                                     </del>	†					2. Groundwater was encountered at	Г
25								1	Į.			1	5.0 feet during drilling.	
						<u> </u>				]		ŀ		<u> </u>
	<u></u>	<del> </del>	<b> </b>	<u> </u>	$\vdash$		<u> </u>	-		1	[		3. Sampler type:	-
	$\vdash$	<del> </del>	<del> </del>	├	<del> </del>	+-	├-	1					California Sampler (CS) O.D.: 2.5 inches	-
30	-	<del>                                     </del>	<del>                                     </del>	<del>                                     </del>	<del>                                     </del>	+-	╁	1					I.D.: 2.0 inches	一
~					T	1		1						
								]					4. Boring was backfilled with cement/	
								]					bentonite grout upon completion of	L
		<u> </u>	—	ऻ—	-		<u> </u>	-					drilling.	_
35	<u> </u>	├	<del>  -</del>	<del>                                     </del>	-	+	┼	-		1		1	5. OVA readings: No OVA readings	$\vdash$
	-	<del>                                     </del>	-	$\vdash$	1	+-	$\vdash$	1					observed during drilling.	<u> </u>
-			<del>                                     </del>	<del>                                     </del>	t	+	T	1				1	Joodi Tod daining drinning.	
								1						
40								]						
			ļ		ļ _	<u> </u>	<u> </u>	4						-
Pag		1	of	<u> </u>	1			<u> </u>	<u> </u>		<u> </u>	<u> </u>		<u></u>

PROJECT No. <u>86-018-1804</u>

BORING No. <u>BC2-7</u>

LOGGED BY RMD

-		TNAM	ME: ATION	•					se 2A S				URFACE ELEV. 114.3 feet	_
_	LER		Spect								: ST	•	7/24/90 FINISH 7/24/90	_
) E		SAMI				BLOW	,	REC	USCS	wc	qu	L D A E Y P	SOIL DESCRIPTION	
T H	No.	TYPE	INTE		0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	
	1	CS	0.0	1.5	15	25	26	15	SM			0.3	Steel grate runway.	7
	2	cs	1.5	3.0	12	10	9	15	SM	ļ	ļ	ļ	Dense, light brown, silty fine sand, dry. (Fill)	
	3	CS	3.0	4.5	6	10	12	16	SM				becomes medium dense at 1.5 feet.	
5	Ť		0.0	7.0	Ť		<u> </u>	"	0			ļ	saturated below 4.8 feet.	
-	4	CS	4.5	6.0	2	8	8	14	SM			Ì		
	5	cs	6.0	7.5	6	4	6	15	SM			6.3		_
													Loose, grayish brown, silty fine sand,	
	6	CS	7.5	9.0	3	4	2	15	SM				saturated.	
0	7	CS	9.0	10.5	4	4	4	15	SM				thin lens of clay at 9.5 feet.	-
	-		10.5	100	-	<del>  _</del>	<del> </del>	۱.,			1	10.0	Loose, greenish gray, silty fine sand, saturated, with clay lenses.	
	8	_cs _cs	10.5	12.0 13.5	2	3	2	14	SM SM	ļ	ļ		color change to dark gray to black at	
	-	- 03	12.0	13.5		-	<del>  -</del> -	10	J SIW				11.0 feet, some pockets of clayey sand,	
15	10	CS	13.5	15.0	5	5	6	16	SM	1			some shells below 12.5 feet.	
						Ť	_	1		1		15.0	Bottom of Boring at 15.0 feet.	•
			<u> </u>					1		İ	İ			
								]		1	Ì		Notes:	
								]	ĺ					
20			<u> </u>		<u> </u>	<u> </u>		1	ļ				Boring was advanced using 8-inch-	
			<u> </u>			ļ							diameter hollow stem augers.	
	_			<u> </u>		ļ	<u> </u>	-					2 Constant value and at	
	_	<b>}</b> -		<del> </del>	-			4					<ul><li>2. Groundwater was encountered at</li><li>4.8 feet during drilling.</li></ul>	
25	-				<del> </del>	┿		┨			:		4.8 feet daining arming.	
25	-	-		-	<b>-</b>	-	-	┧			1	1	3. Sampler type:	
		<del> </del>	<del>                                     </del>		<u> </u>	+	$\vdash$	1					California Sampler (CS)	
	<u> </u>	<del>                                     </del>	<del> </del>		<u> </u>	T	<del>                                     </del>	1		1	1		O.D.: 2.5 inches	
			†				<del>                                     </del>	1					I.D.: 2.0 inches	
30								1						
								]	1	1	1		4. Boring was backfilled with cement/	
									ļ				bentonite grout upon completion of	
								]	Ì		1		drilling.	
			<u> </u>		lacksquare	<u> </u>	<u> </u>	1	1					
3 <b>5</b>	<u></u>	<u> </u>	<u> </u>	<b> </b>	<del> </del>	₩	<u> </u>	4			1		5. OVA readings: No OVA readings	
	<u> </u>	<del> </del>	<b>├</b> ─	<b>├</b> ──	<del> </del>	+	<del>  -</del>	4					observed during drilling.	
	-	├	├-	<del> </del> -	+-	┼	┼-	-						
	-	$\vdash$		├	-	+	┼	-						
40	-	+-	+	<del> </del>	+-	+	-	1				}		
₩		<del>                                     </del>	1	<del>                                     </del>	1	+	$\vdash$	1			1			
	$\vdash$	+	+	+	+-	+-	+	┪	1	1	1			

PROJECT No. 86-018-1804

BORING No. BC2-8

LOGGED BY RMD

PR	O.JEC	CT NA	ME.		NAS	Alan	reda	- Pha	ase 2A S	Site Inv	/estina	ations		
			ATION	· :					of Cans				URFACE ELEV. 113.6 feet	
_	ILLE	-	Spect								: ST	•	7/25/90 FINISH 7/25/90	
DEP		SAM		. Carri	ı	BLOW		REC	USCS	wc	qu	L D A E Y P	SOIL DESCRIPTION	P I E
T	No.	TYPE	INTE	RVAL TO	0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	z
	2	CS	0.0	1.5 3.0	15	20	25 16	17	SM SM			0.3	Steel grate runway.  Dense, light brown, silty fine sand, moist.  (Fill)	T E
5	4	CS	3.0 4.5	6.0	5	10	7	15 16	SM SM				becomes medium dense at 3.0 feet. saturated below 4.8 feet. color change to gray brown at 4.8 feet.	E
	5	CS	6.0 7.5	7.5 9.0	2	10	17	14	SM SM				becomes loose at 7.5 feet. increase in silt content below 8.0 feet.	F
10	7	CS	9.0	10.5	5	7	9	15	SM SM			9.0	Medium dense, brown mottled gray, silty fine sand, saturated, with trace of clay, small shell fragments.	F
	9	cs	12.0	13.5	2	7	7	18	SM			12.0	becomes loose at 10.5 feet.  Medium dense, dark gray, silty fine sand,	1
15	10	CS	13.5	15.0	5	8	8	17	SM			15.0	saturated, trace of clay, some shells.  Bottom of Boring at 15.0 feet.	E
20													Notes:  1. Boring was advanced using 8-inch-diameter hollow stem augers.	
25								†   					Groundwater was encountered at     4.8 feet during drilling.	
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30													Boring was backfilled with cement/ bentonite grout upon completion of drilling.	
3.	5							1					OVA readings: No OVA readings observed during drilling.	
4	, E													
	ge:	1	of	1										上

PROJECT No. 86-018-1804

BORING No. BC2-9

LOGGED BY BB

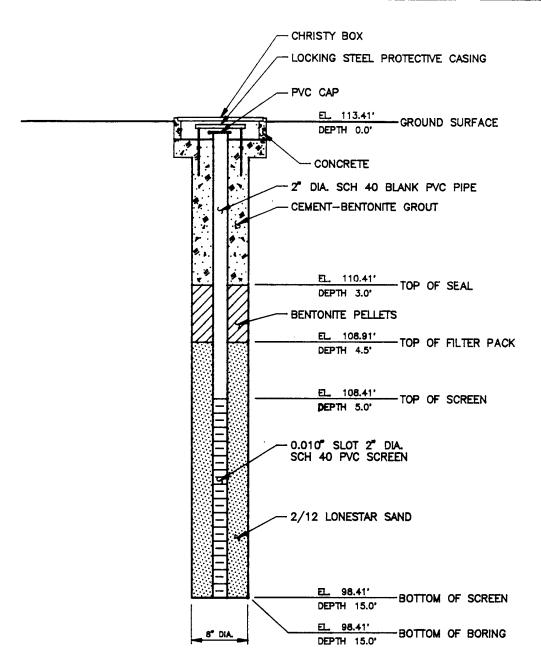
RO	JEC	T NAI	ΛE:	•					ase 2A S					_
_			NOITA						of Cans			•	URFACE ELEV. 113.0 feet	_
RIL D T	LER	<u>:</u>	Spect	rum E	xplo	ratior	1 - G	arry E	Buss	DATE	: STA	LD	7/25/90 FINISH 7/25/90	
E		SAMI	PLE			BLOW		REC	USCS	wc	qu	A E Y P	SOIL DESCRIPTION	
T H	No.	TYPE	INTEI FROM		0" 6"	6" 12"	12" 18"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	
	1	CS	0.0	1.5	14	25	32	15	SM			0.3	Steel grate runway.	_
													Very dense, light brown, silty fine sand,	
	2	CS	1.5	3.0	15	19	20	15	SM				moist. (Fill)	
	3	cs	3.0	4.5	7	6	7_	16	SM				becomes dense at 2.0 feet. becomes medium dense at 3.0 feet.	
5					40	10	<u> </u>	1				<b>5</b> 0	Medium dense, brown gray, silty fine	-
	4	CS	4.5	6.0	10 9	12 9	12	16 15	SM SM			5.0	sand, saturated, abundant silt.	
	5	cs	6.0	7.5	9	9	10	13	I SM	1			Sand, Saturated, abbridant sitt.	
	6	CS	7.5	9.0	9	5	3	13	SM				becomes loose at 8.0 feet.	
10	7	CS	9.0	10.5	5	5	5	12	SM	ļ			5000,00 10000 41 010 1001	
			3.0	10.0	Ť	۲	Ť	1 🗀	0					
	8	cs	10.5	12.0	8	3	4	12	SM	Į	ļ	11.0	Medium dense, dark gray, silty sand,	
	9	CS	12.0	13.5	2	3	5	14	SM		ļ !		saturated, some thin pockets of clayey	
					L			]		l			sand, shells, and wood fragments.	
15	10	CS	13.5	15.0	6	8	9	8	SM		1		becomes medium dense at 13.5 feet.	_
			<u> </u>		<u> </u>		<u> </u>	4				15.0	Bottom of Boring at 15.0 feet.	
	Щ					ļ		4		ļ	}	•	· ·	
					_			-			ļ		Notes:	
	<u> </u>				_	├		-		Į.	ļ	ļ	1. Boring was advanced using 8-inch-	
20	<u> </u>		-		-	<del> </del>	-	-	İ				diameter hollow stem augers.	
	-		<del> </del>		<del>                                     </del>	-	├	┨					diameter nonow stem augers.	
			<del></del>		-	<del>}</del>	╁	1		1			2. Groundwater was encountered at	
			<del> </del>		<del>                                     </del>	╁		1					5.0 feet during drilling.	
25	_	-	<del>                                     </del>		<del>                                     </del>	<del>                                     </del>	<del>                                     </del>	1	1		<b>!</b>		J	
					<del>                                     </del>	†		1					3. Sampler type:	
				<del>                                     </del>	t	1		1	ļ			ļ	California Sampler (CS)	
								]					O.D.: 2.5 inches	
						<u> </u>		]					I.D.: 2.0 inches	
30								1	Ì	1	1	1		
		<u> </u>		<u> </u>	<u> </u>		<u> </u>	1	ł				4. Boring was backfilled with cement/	
			ļ			<b> </b>	ļ	4	1	1	}		bentonite grout upon completion of	
		ļ		<u> </u>	<u> </u>	<u> </u>	↓	4		1			drilling.	
	<u></u>	<u> </u>	<del> </del>	<del> </del>	┼	┼—	├	4	Į.				5 OVA roadings:	
35	<u> </u>	<u> </u>	<del> </del>	<del>                                     </del>	—	<b>├</b> ─	╄-	-					5. OVA readings:	
	-	<del> </del>	<del> </del>		├	┼─	┼	-					<ul><li>a) 2-5 ppm at 11.5 feet.</li><li>b) 10 ppm at 13.5 feet.</li></ul>	
	$\vdash$	-	+	├	┼	+-	┼	+			1		u) to ppin at 13.5 leet.	
	-	├	+-	<del>                                     </del>	+	+	+-	-		[				
40		<del>                                     </del>	<del>                                     </del>	<del>                                     </del>	t	+	+-	7	1	1	1			
	$\vdash$	<del>                                     </del>	+		†	T	+-	7						
		T	<del>                                     </del>	1	t	+-	1	1		1	1	1		

## Monitoring Well Detail

PROJECT N	o. <u>86</u> –0	18-1804
WELL No.	MWC2-1	

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION CANS C2, NORTH SIDE, BY GATE DATE 7-25-90 BY RMD



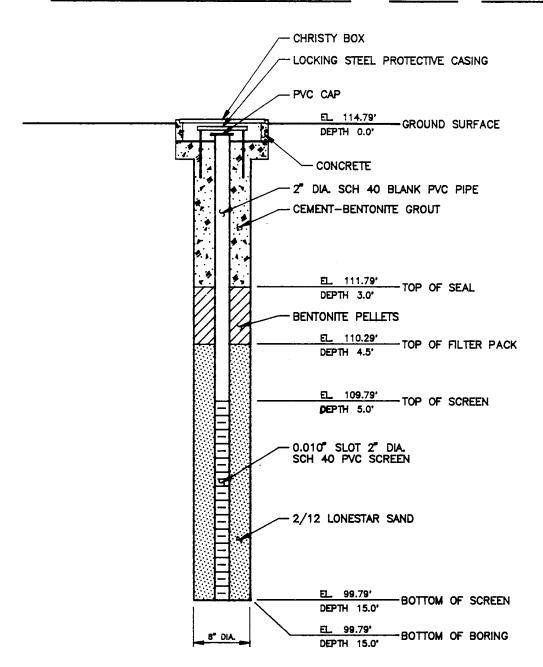
- 1. NOT DRAWN TO SCALE.
- 2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

### Monitoring Well Detail

PROJECT	No.	86-018-1804
WELL No.	M'	WC2-2

PROJECT NAME NAS ALAMEDA—PHASE 2A SITE INVESTIGATION

WELL LOCATION CANS C-2, WEST SIDE, OUTSIDE FENCE DATE 7-24-90 BY RMD



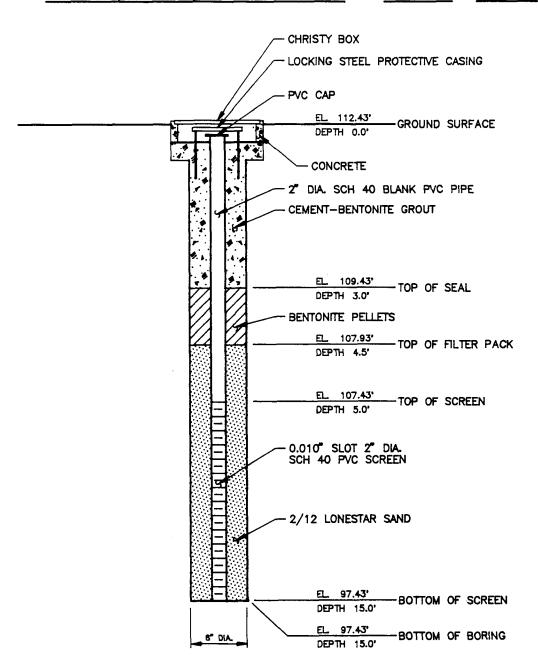
- 1. NOT DRAWN TO SCALE.
- 2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

### Monitoring Well Detail

PROJECT No. 86-018-1804
WELL No. MWC2-3

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION CANS C-2, SOUTH SIDE, OUTSIDE FENCE DATE 7-25-90 BY RMD



- 1. NOT DRAWN TO SCALE.
- 2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

APPENDIX H

AREA 97
BORING LOGS AND MONITORING WELL
CONSTRUCTION DETAILS

PROJECT No. 86-018-1804

BORING No. MW97-1

LOGGED BY RMD

OΡ	ING	100	ATION		Was	t of k	1cDc	naldi	s Restai	IFO.nt			SURFACE ELEV. 113.61 feet
				•							CT	•	
	LER		Spect	rum E	xpio	ration	1 - G	arry E	buss	DATE	: ST	LD	7/26/90 FINISH 7/26/90
		SAM	PLE			BLOW		REC	USCS	wc	qu	AEYP	SOIL DESCRIPTION
:	No.	TYPE	INTE		0" 6"	6" 12"	12"	(in)	TYPE	(%)	(TSF)		AND REMARKS
늭			11011	-,0	_		10			L	<del> </del>		
ŀ	-	CS	0.5		30			.	014			۱ , ,	Asphalt. (Fill)
ŀ	1			2.0		30	20	10	SM			0.5	Dense, light brown, silty fine sand, moist
1	2	CS	2.0	3.5	9	20	12	13	SM				with shells. (Fill)
						-						١	becomes medium dense at 2.0 feet.
,	3	CS	3.5	5.0	8	3	2	10	SM-CL			4.5	Soft, greenish gray, silty clay, moist.
	4	_cs_	5.0	6.5	8	3	2	18	SM			5.5	Loose, black, silty medium sand,
													saturated, with white shells and lenses
١	5	cs	6.5	8.0	1	1	2	16	CL	1		6.5	of black clay.
	6	cs	8.0	9.5	1	1	4	18	CL			8.0	Soft, gray to black, sandy clay, saturated,
0								Į į				ļ	with shells.
	7	CS	9.5	11.0	1	1	5	18	CL			ŀ	Soft to medium stiff, dark gray, silty clay,
	8	CS	11.0	12.5	2	4	6	17	SC			11.5	
								1 1					some organic plant matter at 10.5 feet.
	9	CS	12.5	14.0	5	10	18	18	SC				Loose, dark gray to brown, silty clayey
5	10	CS	14.0	15.5	12	8	11	16	sc	1			fine sand, saturated, with shells.
ı						I						15.5	becomes medium dense and more silty
													at 13.0 feet/
												1	
													Bottom of Boring at 15.5 feet.
0							<u> </u>						Notes:
								1		İ		ĺ	
								1 !		1	ļ	ļ	1. Boring was advanced using 8-inch-
					<b></b>			1					diameter hollow stem augers.
5						<del>                                     </del>	<u> </u>	1		İ			
-								1		1	Ι.		2. Groundwater was encountered at
						T		1 :					5.5 feet during drilling.
			<b>†</b>			<b> </b>		1	l	1	{		
			<del></del>		$\vdash$	$\vdash$		1		1	1		3. Sampler type:
ю			<del>                                     </del>	<del>                                     </del>	$\vdash$	<del>                                     </del>	<del> </del>	1					California Sampler (CS)
	_		<del>                                     </del>	<del> </del> -	<del>                                     </del>	<del>                                     </del>	_	1	1	1	1		O.D.: 2.5 inches
	-		<del>                                     </del>	<del>                                     </del>	<del>                                     </del>	┼─~	<del>                                     </del>	1	1	]	1	1	I.D.: 2.0 inches
	<del>                                     </del>		<del> </del>	<del>                                     </del>	<del>                                     </del>	<del> </del>	<del>                                     </del>	1	[	[	[	Į.	1.5 2.0 1101163
	<u> </u>	<del> </del>	<del> </del>	├──	-	+		1					4 Roring was converted to a manifering
	<del> </del>	<del> </del>		<del> </del>	-		├	1	]				4. Boring was converted to a monitoring
35	$\vdash$		<del>                                     </del>	<del> </del>	<del> </del>	-		1	1		1	1	well upon completion of drilling.
		<u> </u>		<del> </del>		<del> </del>	├-	1					E OVA readings.
	<u> —</u>	<b> </b>	<del> </del>		—	├—		4	1				5. OVA readings:
	<u> </u>		}	<del> </del>	-	<del>                                     </del>		-				1	a) 50 ppm at 6.0 feet.
	<u> </u>	L	<u> </u>		ļ			4	]		1		b) 25 ppm at 7.0 feet
ю	<u> </u>			<u> </u>	<u> </u>			4	•		1	1	c) 30 ppm at 8.5 feet.
	1	I	1	ı	1	1	i .	1	1	1	1	I	d) 30 ppm at 10.5 feet.

PROJECT No. <u>86-018-1804</u>

BORING No. <u>MW97-2</u>

LOGGED BY RMD

NAS Alameds - Phase 2A Site Investigations	PROJECT NAME: NAS Alameda - Phase 2A Site Investigations														
DRILLER:   Spectrum Exploration - Garry Buss   DATE: START   7/28/90   FINISH   7/28/90					<b>J</b> .							vestiga		HIDEACE ELEV. 112 CO foot	
D   SAMPLE												· CT	•		—
SAMPLE		LEF	١.	Speci	uuiii L	<u>-xpio</u> I	Tatioi	1 - G	ally	uss	DATE	. 31/		7/26/90 FINISH 7/26/90	Р
T   No.   TYPE   INTERVAL   0'   6'   12'   18	Ε		SAM	PLE		I			REC		wc	qu	ΑE	SOIL DESCRIPTION	I
2 CS   1.5   3.0   4   3   2   13   3   3   2   13   3   3   3   3   3   3   3   3		No.	TYPE						(in)	TYPE	(%)	(TSF)	ŀ	AND REMARKS	z o
2 CS 1.5 3.0 4 3 2 13 SM-CL 5 3 CS 3.0 4.5 2 1 2 18 CL 5 4 CS 4.5 6.0 1 1 1 1 1 18 CL 5 CS 6.0 7.5 1 1 1 2 18 CL 6 CS 7.5 9.0 1 2 3 18 CL-SM 8 CS 10.5 12.0 3 2 2 18 SM 9 CS 12.0 13.5 10 13 15 18 SC 15 10 CS 13.5 15.0 15 15 10 17 SC  20 10 10 10 10 10 10 10 10 10 10 10 10 10		1	CS	0.0	1.5	14	14	9	9	SM			0.3	Asphalt. (Fill)	$\overline{L}$
3 CS   3.0   4.5   2   1   2   18   CL						ļ									
S		-											2.5		丄
4 CS   4.5   6.0   1   1   1   1   18   CL   CL   CL   CL   CL   CL   CL   C	_	3	CS	3.0	4.5	2	1	2	18	CL					$\vdash$
S   CS   6.0   7.5   1   1   2   18   CL	5			4.5	-	<del> </del>				<u></u>				Interbedded siity sand. (Fiii)	<u></u>
8 CS 7.5 9.0 1 2 3 18 SM SM SM SS 10.5 12.0 3 2 8 16 SM SC 10.5 13.5 15.0 15 15 10 17 SC 10.5 13.5 15.0 15 15 10 17 SC 15.0 SM SM SM SM SM SM SM SM SM SM SM SM SM		$\vdash$	_	_	_		-	_			<b>F</b>		62	Soft dark raddish brown sandy alay	١÷
8 CS 7.5 9.0 1 2 3 18 18 SM SM SM SM SM SM SM SM SM SM SM SM SM		-	03	0.0	7.5	┝		-	10	0	<u> </u>		0.3		×
10   7   CS   9.0   10.5   3   2   2   18   SM     8   CS   10.5   12.0   3   2   8   18   SM     9   CS   12.0   13.5   15   15   15   10     15   10   CS   13.5   15.0   15   15   10     20		6	CS	7.5	9.0	1	2	3	18	CL-SM			8.5		₹
8	10	_				3	_		•						X
9 CS 12.0 13.5 10 13 15 18 SC 10 CS 13.5 15.0 15 15 10 17 SC 15.0 CS 13.5 15.0 15 15 10 17 SC 15.0 CS 13.5 15.0 15 15 10 17 SC 15.0 CS 13.5 15.0 15 15 15 10 17 SC 15.0 CS 13.5 15.0 15 15 15 10 17 SC 15.0 CS 13.5 15.0 The following series and saturated, abundant iron oxide stains. (Merritt Sand) Bottom of Boring at 15.0 feet.  Notes:  1. Boring was advanced using 8-inch-diameter hollow stem augers.  2. Groundwater was encountered at 9.3 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was converted to a monitoring well upon completion of drilling.  5. OVA readings: a) 10 ppm at 10.0 feet. b) 10 ppm at 11.5 feet. c) 5 ppm at 13.0 feet.														, ,	X
with gray, clayey fine sand, saturated, abundant iron oxide stains.  (Merritt Sand) Bottom of Boring at 15.0 feet.  Notes:  1. Boring was advanced using 8-inch-diameter hollow stem augers.  2. Groundwater was encountered at 9.3 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was converted to a monitoring well upon completion of drilling.  5. OVA readings: a) 10 ppm at 10.0 feet. b) 10 ppm at 11.5 feet. c) 5 ppm at 13.0 feet.		8	CS	10.5	12.0	3	2	8	16	SM				color change to gray at 11.5 feet.	×
15 10 CS 13.5 15.0 15 15 10 17 SC  20		9	CS	12.0	13.5	10	13	15	18	SC			12.0	, –	X
20 21 22 23 24 25 25 26 27 28 29 29 20 20 20 20 20 20 20 20 20 20 20 20 20						<u> </u>									X
Bottom of Boring at 15.0 feet.  Notes:  1. Boring was advanced using 8-inchdiameter hollow stem augers.  2. Groundwater was encountered at 9.3 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was converted to a monitoring well upon completion of drilling.  5. OVA readings: a) 10 ppm at 10.0 feet. b) 10 ppm at 11.5 feet. c) 5 ppm at 13.0 feet.	15	10	cs	13.5	15.0	15	15	10	17	SC				1	X
Notes:  1. Boring was advanced using 8-inchdiameter hollow stem augers.  2. Groundwater was encountered at 9.3 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was converted to a monitoring well upon completion of drilling.  5. OVA readings: a) 10 ppm at 10.0 feet. b) 10 ppm at 11.5 feet. c) 5 ppm at 13.0 feet.													15.0		-
1. Boring was advanced using 8-inchdiameter hollow stem augers.  2. Groundwater was encountered at 9.3 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was converted to a monitoring well upon completion of drilling.  5. OVA readings: a) 10 ppm at 10.0 feet. b) 10 ppm at 11.5 feet. c) 5 ppm at 13.0 feet.						<u> </u>								Bottom of Boring at 15.0 feet.	-
1. Boring was advanced using 8-inchdiameter hollow stem augers.  2. Groundwater was encountered at 9.3 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was converted to a monitoring well upon completion of drilling.  5. OVA readings: a) 10 ppm at 10.0 feet. b) 10 ppm at 11.5 feet. c) 5 ppm at 13.0 feet.		H												Notes:	$\vdash$
1. Boring was advanced using 8-inch-diameter hollow stem augers.  2. Groundwater was encountered at 9.3 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was converted to a monitoring well upon completion of drilling.  5. OVA readings: a) 10 ppm at 10.0 feet. b) 10 ppm at 11.5 feet. c) 5 ppm at 13.0 feet.	20	$\vdash$												Notes.	$\vdash$
diameter hollow stem augers.  2. Groundwater was encountered at 9.3 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was converted to a monitoring well upon completion of drilling.  5. OVA readings: a) 10 ppm at 10.0 feet. b) 10 ppm at 11.5 feet. c) 5 ppm at 13.0 feet.		Н						_						Boring was advanced using 8-inch-	-
2. Groundwater was encountered at 9.3 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was converted to a monitoring well upon completion of drilling.  5. OVA readings: a) 10 ppm at 10.0 feet. b) 10 ppm at 11.5 feet. c) 5 ppm at 13.0 feet.														1	
9.3 feet during drilling.  3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was converted to a monitoring well upon completion of drilling.  5. OVA readings: a) 10 ppm at 10.0 feet. b) 10 ppm at 11.5 feet. c) 5 ppm at 13.0 feet.														<b>J</b>	
3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was converted to a monitoring well upon completion of drilling.  5. OVA readings: a) 10 ppm at 10.0 feet. b) 10 ppm at 11.5 feet. c) 5 ppm at 13.0 feet.															
California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was converted to a monitoring well upon completion of drilling.  5. OVA readings: a) 10 ppm at 10.0 feet. b) 10 ppm at 11.5 feet. c) 5 ppm at 13.0 feet.	25									:				9.3 feet during drilling.	
California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was converted to a monitoring well upon completion of drilling.  5. OVA readings: a) 10 ppm at 10.0 feet. b) 10 ppm at 11.5 feet. c) 5 ppm at 13.0 feet.					ļ	<u> </u>									$\vdash$
O.D.: 2.5 inches I.D.: 2.0 inches  4. Boring was converted to a monitoring well upon completion of drilling.  5. OVA readings: a) 10 ppm at 10.0 feet. b) 10 ppm at 11.5 feet. c) 5 ppm at 13.0 feet.					<u></u>	<b> </b>								1 76	-
35  I.D.: 2.0 inches  4. Boring was converted to a monitoring well upon completion of drilling.  5. OVA readings: a) 10 ppm at 10.0 feet. b) 10 ppm at 11.5 feet. c) 5 ppm at 13.0 feet.		<del>                                     </del>				<b>—</b>	$\vdash$							, , ,	$\vdash$
4. Boring was converted to a monitoring well upon completion of drilling.  5. OVA readings:  a) 10 ppm at 10.0 feet.  b) 10 ppm at 11.5 feet. c) 5 ppm at 13.0 feet.	30				<u> </u>	<u> </u>	<b></b>								-
well upon completion of drilling.  5. OVA readings: a) 10 ppm at 10.0 feet. b) 10 ppm at 11.5 feet. c) 5 ppm at 13.0 feet.	30	Н			<u> </u>		<del>                                     </del>							1.0 2.0 1101103	$\vdash$
well upon completion of drilling.  5. OVA readings: a) 10 ppm at 10.0 feet. b) 10 ppm at 11.5 feet. c) 5 ppm at 13.0 feet.		H				$\vdash$								4. Boring was converted to a monitoring	$\vdash$
5. OVA readings: a) 10 ppm at 10.0 feet. b) 10 ppm at 11.5 feet. c) 5 ppm at 13.0 feet.		М												1	$\vdash$
a) 10 ppm at 10.0 feet. b) 10 ppm at 11.5 feet. c) 5 ppm at 13.0 feet.														, , , , , , , , , , , , , , , , , , , ,	
b) 10 ppm at 11.5 feet. c) 5 ppm at 13.0 feet.	35													5. OVA readings:	
c) 5 ppm at 13.0 feet.									] ,						
40		<u> </u>		ļ		<u> </u>								c) 5 ppm at 13.0 feet.	
40		<u> </u>		ļ		<u> </u>									$\vdash$
	40	-			<u> </u>	-									$\vdash$
		-			<b></b>										<b>—</b>
Page: 1 of 1	Page	:	1	of	1	1	<b>1</b>		I	L	L	<u>.                                    </u>			Ш

PROJECT No. 86-018-1804

BORING No. MW97-3

LOGGED BY RMD

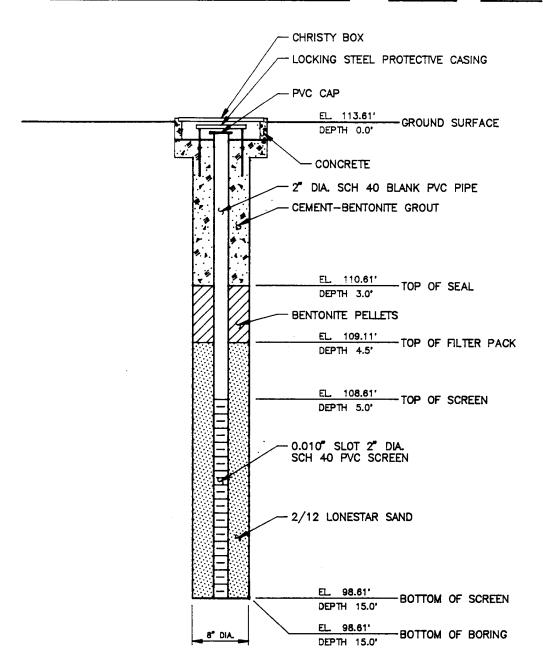
PROJECT NAME: NAS Alameda - Phase 2A Site Investigations														
			VIL. ATION	•									SURFACE ELEV. 113.90 feet	
DRIL			Spect								: STA	•	7/26/90 FINISH 7/26/90	
D E P		SAMI				BLOW	•	REC	USCS	wc	qu	L D A E Y P	SOIL DESCRIPTION	P
T H	No.	TYPE	INTE FROM	RVAL TO	6" 0"	6" 12"	12"	(in)	TYPE	(%)	(TSF)	E T R H	AND REMARKS	2
	1	CS	0.0	1.5	9	16	11	12	SM				Grass and Topsoil.	Ī
												0.5	Medium dense, light brown, silty fine	r
	2	CS	1.5	3.0	15	12	10	16	SM				sand, moist. (Fill)	
	3	CS	3.0	4.5	3	6	5	16	SM					L
5													saturated below 4.5 feet.	L
,	4	cs	4.5	6.0	3	6	8	16	SM					2
	5	CS	6.0	7.5	2	2	5	18	SM				Loose, gray, silty fine sand, saturated.	>
	H	-00		0.0			-	۱.,	014.01			6.5	Very soft, gray, silty clay, saturated.	7 7
10	6 7	CS CS	7.5 9.0	9.0	1	2	3	16 15	SM-CL SM			8.5 9.0	(Bay Mud) Loose, dark gray, silty fine sand,	\ `
10	$\vdash$	CS	9.0	10.5	-		-	'3	SIVI			10.0	saturated, with small white shells.	\ \
	8	CS	10.5	12.0	3	4	8	18	sc			10.5	Loose, light brown, silty fine sand,	ŀ
	9	CS	12.0	13.5	14	20	25	18	SC				saturated.	1
								1					Medium dense, orange brown mottled	>
15	10	CS	13.5	15.0	15	23	30	16	sc				gray, clayey fine sand, saturated,	>
										İ	i	15.0	some silt. (Merritt Sand)	L
							ļ	1					becomes dense at 12.5 feet.	L
								]					Bottom of Boring at 15.0 feet.	L
20								1	-				Notes:	L
								1						
								]					Boring was advanced using 8-inch-	
								]					diameter hollow stem augers.	L
25				ļ	ļ			1						L
							ļ	4					2. Groundwater was encountered at	Ļ
	-					_		-					4.5 feet during drilling.	L
	┝			<b> </b>			_	1					3. Sampler type:	┝
30	<b> </b>				$\vdash$	-		1					California Sampler (CS)	┝
50	$\vdash$		<del>                                     </del>		<b></b> -	<del>                                     </del>		1					O.D.: 2.5 inches	H
	$\vdash$							1					I.D.: 2.0 inches	۲
		Ì				İ		1				1		T
								]				1	4. Boring was converted to a monitoring	
35								]				1	well upon completion of drilling.	Ĺ
	<u></u>							1						L
		<u> </u>	<u> </u>		<u> </u>	<u> </u>		4					5. OVA readings:	L
	<u></u>	<u> </u>			<del>                                     </del>	<del>                                     </del>	_	4					a) 10 ppm at 7.0 feet.	L
40	$\vdash$	<del>                                     </del>		-	1	-		-					b) 30 ppm at 8.0 feet.	H
40	$\vdash$		<del> </del>	<del> </del>	-	-	-	-{					c) 10 ppm at 10.0 feet.	$\vdash$
	$\vdash$	<del> </del>	-	<del> </del>	1		$\vdash$	┨						$\vdash$
Page	<u>                                     </u>	1	of	1	1	1	<u> </u>		<u></u>	<b>I</b>		L	L	

## Monitoring Well Detail

PROJECT	No.	86-018-1804					
WELL No.	MW	/97-1					

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION McDONALDS, NORTHWEST CORNER DATE 7-26-90 BY RMD



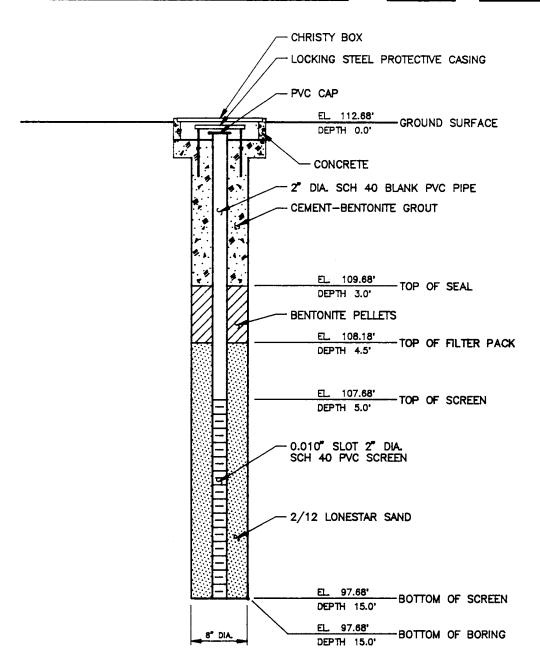
- 1. NOT DRAWN TO SCALE.
- 2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

### Monitoring Well Detail

PROJECT N	lo. <u>86-01</u>	8-1804
WELL No.	MW97-2	

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION CREDIT UNION, SOUTHEAST CORNER DATE 7-26-90 BY RMD



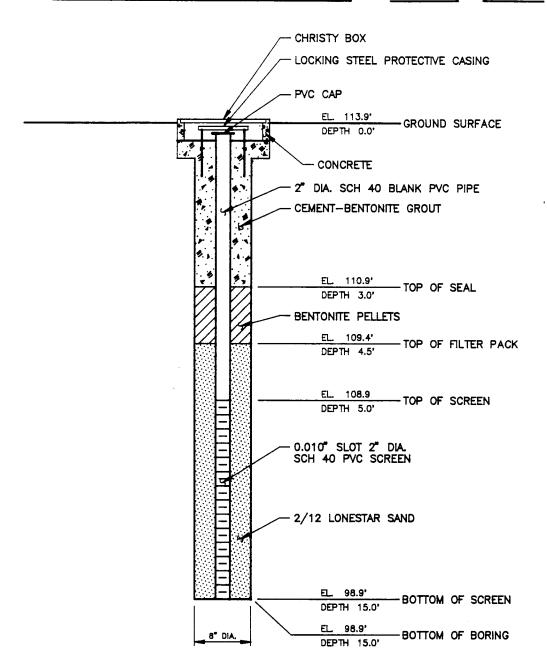
- 1. NOT DRAWN TO SCALE.
- 2. SEE BORING LOG
  - FOR DETAILED SOIL DESCRIPTION.

## Monitoring Well Detail

PROJECT	No.	86-018-1804
WELL No.	М	W97-3

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION SOUTHWEST OF AIRPLANE ON DISPLAY DATE 7-26-90 BY RMD



#### NOTES:

- 1. NOT DRAWN TO SCALE.
- 2. SEE BORING LOG

FOR DETAILED SOIL DESCRIPTION.

# CanonieEnvironmental

November 2, 1990

Canchie bis roome trail Service (1995) 1925 Shiller Grant Service Serve 260 San Materilicia, roce 194400

Phone: 415-573-8012 FAX: 415-373-5654

86-018-1810

Ms. Bella Dizon (Code 1813BD)
Western Division Naval Facilities
Engineering Command
PO Box 727
San Bruno, CA 94066-0727

Iransmittal

Phase 2A Boring Logs and

Monitoring Well Construction Details

Remedial Investigation/Feasibility Study

Naval Air Station Alameda

Alameda, California

Dear Ms. Dizon:

Enclosed are three sets of Boring Logs and Monitoring Well Construction Details from the Phase 2A drilling program recently completed during the Remedial Investigation/Feasibility Study (RI/FS) at Naval Air Station Alameda. Site-specific subsurface data are presented in separate appendices for the eight RI/FS sites, which include Building 360, Building 547, Yard D-13, Building 410, Building 530, Oil Refinery, Cans C-2 Area, and Area 97.

If you have any questions regarding this information, please call me at (415) 573-8012.

Very truly yours,

Timothy G. Bodkin, R.G. Senior Project Scientist

The Beatle

TGB/gd

Enclosure

cc: Jim Babcock, Canonie Environmental Services Corp.